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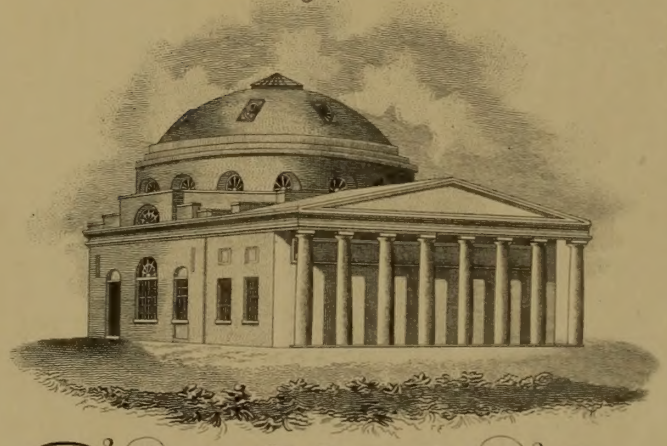

University of Maryland

Md.
Coll.

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

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Author	Title
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UNIVERSITY OF MARYLAND

THESES

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Dedication.

To

The Faculty of the

University of

Maryland

This Thesis is

Respectfully inscribed

In admiration of the

Ability and fidelity

with which

They have severally dis

charged the duties

of their respective

Chairs

by Jonathan Clay.

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Theses

On the peculiar functions of the Brain & Nervous System

Hypothesis is not truth — or we should rather say, is not truth ascertained — yet when legitimately used, it is the most ready and effective of all the means in our power for acquiring truth. It is by hypotheses framed with at once a bold and cautious sagacity, that the boundaries of science are extended and it is by its light, though confessedly in many cases leading the incautious adventurer into inextricable labyrinths of error, that Philosophy has been directed on voyages of discovery which have lead to the acquisition of imperishable riches, so that facts and principles which once seemed to be placed not only beyond the reach of human intelligence, but the horizon of rational conjecture have at length been brought to form a part of our well-established Systems of Modern philosophy

In presenting our hypotheses of the Nervous system, we claim for it no other consideration than a mere statement of which to our minds appears a rational and consistent theory, which, while it leaves the anatomical structure of the Brain and Nerves unchanged, supersedes a multitude of difficulties, of questionable authority, con-

cerning the functions of the Nerves and incorporated as undoubtful facts in the most popular systems of human physiology.

Physiologists regard the brain as being not only the seat of the Mind and the organ of the intellectual operations, but as the centre of emanation of those volitions which precede muscular motion, and as the receptacle of impressions from the several senses. "The most simple or elementary function" says Carpenter Principles of Human Physiology "of the Nervous System is the establishment of a communication between a part which is susceptible of impressions and another which can perform contractile movements; so that a stimulus applied to one part may immediately excite a correspondent action in the other however great may be its distance. Hence it may be said to have an intermuncial function." It is whether the brain according to this theory that the mind converses with the notices of the external world conveyed to it by the nervous chords, whose special office may be aptly compared to a kind of magnetic telegraph, communicating promptly all impressions from without to the brain, the audience chamber of the Mind, from whence, as from the throne of reason, it issues its edicts and despatches its volitions through its telegraphic post routes to every part of the empire in which it reigns.

In the first place, this theory embraced and taught by the standard authors upon physiology, much more is assumed than is attempted to be supported by any kind of proof - and therefore is fairly open for future investigation.

In the second place this theory of sensation and muscular action, instead of being the involuntary dictate of our consciousness, contradicts our impressions and our natural suspicions, and therefore is not entitled to assent unless established by satisfactory evidence.

It was an ancient opinion to which modern philosophy also inclines - that motion in every case is the product of mind, and that though transmitted and continued through various means it never commences except in a volition either of the Supreme Mind or of created minds. This doctrine may well have been suggested by our consciousness with which it exactly comports. The mere volition is followed by muscular action and the process is absolutely simple and instantaneous; nor does any thought of the physical apparatus - the muscular contractions, the tendinous attachments, or the bony fulcra enter into the mental operation. In

fact there is no process at all. There is no circuit of acts or preparations; motion follows will, just as perception follows the impact of vibrations - without interval. Will and motion are immediately conjoined, and the organic and mechanical structure by which it is affected are modes only through which the power of the Mind is displayed and is directed in a particular line of movement.

The vis inertiæ of matter, the tendency of gravitation, and the resistance of the Atmosphere are all met and instantaneously overcome by a direct mechanical force - a force which is not that of bones, tendons and muscular fibres; but the force of mind. These tendons, nerves and muscles, do in fact come between mind and matter; but it is as instruments merely, and as a staff or a chord intervenes between the hand and the body that is moved by it. The expansive force of heat, as applied in the vaporization of water is not a more direct mechanical force, than is the impulsive power of the mind in man and other locomotive Animals.

We are accustomed indeed to say that the mind acts mechanically only by exciting muscular irritability and the tension of fibres. But is not this assumption altogether gratuitous? Our consciousness does not suggest any such belief:— in rapidly and forcibly moving the hand — in striking a blow, we know nothing of contracted fibres, or of muscles, or of a circuitous despatching of orders from the mind to the brain, and the brain along the nervous chords to such and such muscles as the case may demand. The mind is in the hand, and there it originates motion — it is not, or not if our consciousness speaks true in the anatomical or physiological mechanism. This complex apparatus performs its part at the moment when called upon with as little of our control and interference as do the heart, and the liver and the intestines perform their constant offices.

Let us now look at the anatomical structure of the nervous system. First, with the common thing in view, viz that it is a medium through which specific volitions are conveyed from the brain to the muscular mechanism. Now although it

would be unwarrantable to affirm that the transmission of distinct volitions, through a system of interlaced chords, such as we find the nerves of muscular motion to be, is absolutely impossible; it is yet in the highest degree difficult to maintain our belief of any such conveyance while we trace the intricacies and examine the actual arrangements of such chords. Let the ancillary plexus be spread out in its multiform combinations and anastomosing branches and the subsidiary twigs of the leading branches be examined; especially let the structure of the ganglia be microscopically explored, and it would seem that a fugitive thought, entangled in the apparently interminable and inexplicable labyrinth would have as difficult though not so adventurous a passage as Sinbad the sailor, upon the dark, winding subterranean river upon which he was drifted to the opposite side of the earth. Within the plexus and in the substance of the ganglia, the fibrillae constituting the contributory chords are interwoven in the most intimate and intricate manner conceivable; and the entire construction is such as would seem fitted not for the transmission

of volitions in a distinct manner from the brain to the limb; or for the return of sensations from the limb to the brain; but for confounding effectually all such transmissions. Multiplied instances might be specified in which very remarkably provision is made not as if for commingling and confusing the lines of communication between the brain and the extremities; And it may be affirmed that if the office of the nervous network was not predetermined by theories supported by the influence of great names and high authority that the last supposition that would be suggested by a view of its structure would be that it performed an "intermuncial function". In fact looking at it with an impartial eye, it appears the most unlikely contrivance to perform such an office of any organ or system of organs in the whole physical economy.

The system of the nerves present more of anastomosis and more of involution and of intricacy, by plexus and ganglia, and by retrograde ramifications than even the Arterial System. That is to say in the former more than in the latter provision is made for the uninterrupted transmission of whatever is transmitted

at large, to all parts of the extremities, and for its indiscriminate, or promiscuous conveyance. It is plainly a matter of secondary importance to the limbs whether they receive the requisite supply of blood through one trunk or through another, so that it does but come in sufficient quantity and with sufficient force. Or whether the expended fluid be returned through one channel or through another canal. And in like manner (and even more manifestly) the main intention of Nature in the arrangement of the nervous ramifications appears to be, the furnishing an unfailing supply of some necessary influence or ethereal fluid to all parts of the muscular apparatus, by any means and by all means and so that if one medium of conveyance should be accidentally stopped the emanation may yet reach the parts by some circuit, not exposed to the same obstruction.

We assume then that as our consciousness informs us of no such process as that of the dispatching of volitions to the muscles so neither does the anatomical structure of the nervous system indicate its adaptation to a process of

this kind; but the contrary and in the most decisive manner.

"If indeed" says Dr. Brown, Philosophy of the Human mind "the appearance of the brain and nerves were such as marked them to be peculiarly fitted for the communication of motion of any sort, there might be some presumption from this very circumstance, in favour of the opinion, that sensation takes place only after a progressive series of affections of some sort, propagated along the nerve to the interior brain. But it must be remembered that the nature both of the substance of the nerves and of the soft ~~parts~~ and lax substance, in which they are loosely embedded, renders them very ill adapted for the communication of nice varieties of motion and gives some additional likelihood therefore to the supposition, that affections of the sensorial organ so distinct as our sensations are from each other and so exactly corresponding with the slightest changes of external objects do not depend on the progressive communication of faint and imperceptible motions, in circumstances so unfavourable to the uninterrupted

progress even of that more powerful motion, which can be measured by the eye?.

But now let it be supposed (we here confine our attention to muscular motion) that the nervous system connecting the brain and spinal chord with the entire muscular apparatus serves no other purpose than that of conveying from the former to the latter, a copious efflux of (what shall we say) galvanic power: which power the cerebral mass incessantly generates. We then, for simplification's sake, consider the muscles, those of the arm for instance, as consisting only of flexors and extensors; or we may imagine a single pair of antagonists of which the one bends and the other extends the limb. On our present supposition then, the brain by the medium of the brachial nerves, supplies both these muscles surely and perpetually, with the contractile excitement whatever it may be, which shall enable each, when called upon, to become dense and tense in the requisite degree.

What then is volition, but the immediate mental influence present in the arm and determining it to bend or to straighten? The mind

is not the prisoner of the attic story but is the occupant at large of the entire mansion, superintending the entire household economy in the kitchen as well as in the parlour or the reception story, or to drop the metaphor, it is the occupant of the entire corporeal organization, presiding immediately over the functions of each and every organ or system of organs in the physical economy: in the organs of locomotion moving hither and thither by its own inherent power over matter: And by the organs of special sense, receiving immediately the impression of external objects by its inherent susceptibility of the properties of matter; and within the cranium elaborating the higher processes of thought. We trace the brain in undisturbed possession of its prescriptive honours, as the laboratory of the mind, the theatre of all purely intellectual operations; the

"Superas homines sedes, excumque cerebri;
Namque possuit solium, et sua templa sacravit
Mens animi".

but the very reason of the belief that the higher faculties perform their part within the cranium, if allowed to influence also our

our opinions concerning sensation and muscular movement lead to a different supposition. The spontaneous convictions and involuntary impressions that arise from our organic sensations do not suggest the notion either of our despatching orders from the brain down the spinal chord and cranial nerves to certain muscles of the leg; or of our feeling the pinch of a tight shoe – not in the toe, but near to where we feel the pinch of a tight hat.

But again the hypothesis which regards the chief office of the nerves as "intermuncial", derives its support from the questionable not to say preposterous assumption that the mind is confined to some obscure corner of brain not accurately determined, or is a "prisoner in the tower" not even granted the liberty of the prison bounds. This assumption, rendered it imperiously necessary, inasmuch as our consciousness informs us that we are in some way, at least in a limited degree, advertised of, some things which are transpiring in the world – from which the mind is entirely secluded, to devise some means of communicating those intelligences, and as the sublime science of animal magnetism was either unknown or not then sufficiently matured to explain the phenomena – it was natural to conjecture, a kind of magnetic telegraph. and finding the system of nerves without any special office, to assign it an intermuncial function

All we are conscious of is the volition; and all we learn from Physiology is that the muscular contraction requires a certain vis nervosa or galvanic influence of which the brain rather appears to be the secreting viscus. The hand cannot follow the mind unless constantly supplied with blood by the heart, and with galvanic excitement by the brain; nor can the organs of digestion perform their appointed functions unless in the same manner they be supplied with both from the heart and from the brain; but the process of digestion is not effected by the heart nor by the brain but the living power with its colonies in the coats of the stomach; and this, as we suppose it is not the brain that moves the hand in any other sense than that it may be said the heart does so; although the functions of both are indispensable to motion; but it is the mind present in the hand and in that is the actual power.

The supposition above stated concerning muscular motion requires an adaptation of terms in order to apply it to sensation. Instead for example of assuming, that the picture falling on the retina is transmitted in some inconceivable manner by the optic nerve to the sensorium

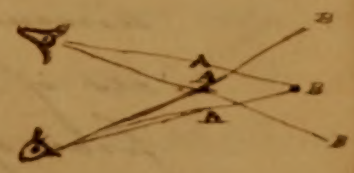
and that there undisturbed and unmixed it delivers itself to the percipient organ, We imagine that the optic nerve suspends the retina with a copious and constant stream of the exciting influence – Let it be galvanism, and that the mind upon the very bed of the nerve, and where the actual picture, in all its vivid and living colours, rests, converses with it and that it does so because it is originally capable of conversing with light and colours – or what is still more probable, by its original and inherent susceptibility of light and colours, converses directly with the objects whose rays fall upon the excited retina, or whose expansion it is restricted in holding visual converse with surrounding objects while in the animal body.

The theories of Physiologists and mental philosophers have both evidently felt themselves embarrassed in reconciling the simplest facts connected with vision with their visionary theories. The cause of single vision with two eyes – when the impression of two distinct pictures were not only pourtrayed upon the retina but transmitted through two seperate nerves whose ~~[illegible]~~ fibres are never blended together, might well ~~[illegible]~~ defy all scrutiny and give rise to conflicting and contradictory solutions

"If the light reflected from a single object, touched by us" says Dr Burton "had produced not two merely but two thousand separate images, on our eyes, erect or inverted or in any intermediate degree of inclination, the visual feeling thus excited however confusa would still have accompanied the touch of a single object; and if only it had accompanied it uniformly, the single object would have been suggested by it, precisely in the same manner as it is now suggested by the particular visual feeling that attends the present double inverted image. the illusions of the mind, are corrected by the sense of touch"

Strictly speaking, vision is not single, but every object is seen double, that is seen by both eyes presenting itself in a different aspect, like an object viewed from two separate windows - the object in the angle of vision approximately so nearly as to leave no appreciable difference and this would necessarily be the case if we had a thousand eyes - the object would appear from each a little different, like an object viewed from different windows, yet the angle of vision meeting in the object renders the vision necessarily single. All objects within or beyond the angle of vision, must necessarily be seen double, that is by each eye

Place my two small objects, in a straight line before the eye, and direct the angle of vision to the farthest and the nearer will be seen double; while, if the near-er be regarded intently so as to appear single the more distant will appear double. Thus place a small object at A and another at B in a straight line, let the angle of vision terminate in B and A will be seen, not single and in its proper place but <u>double</u> and in straight line with B. Again let the eye be directed to the object A. and the object B. will appear double and in a straight line with the object. All objects but those in the angle of vision are seen double, for the simple reason that man has two eyes.



This however is true, at least in a modified degree with regard to the other organs of sense and indeed the higher functions of the brain, but no thing can be <u>distinctly</u> apprehended at the same time. And it is that, on which the organ or sense is concentrated.

"The fact that the nerves of the different senses, say Muller. (And why not add the different?) when affected by the same stimulus become each the seat of its peculiar sensation - the mechanical or galvanic stimulus

(note) In the manner as irritation is confined in the animal organization to particular points, or to diffuses of nervous excitability; so is the mechanical force of the mind restricted to those flexions and rotations which the joints will admit of and which the muscles may perform. Nothing more therefore can be done by a machinery such as this, but change the relative position of the limbs and so by throwing the centre of gravity forward or backward on this side or on that, to effect locomotion.

The flight of birds, the swimming of fishes, and the walking, running, and leaping of land animals are merely adaptations of an altered relative position of the limbs, taking effect suddenly and forcibly upon resisting bodies.

exciting in the optic nerve the sensation of light and in the auditory nerve that of sound, and "in the nerves of touch that of pain" (And why not add in motors that of motion?) is sufficient not only on the supposition that the forces of the different nerves are different, but the peculiar stimuli is generated in and transmitted from parts of the brain differently endowed. "Thus light affects only the optic nerves, and the olfactory nerves would appear to become the seat of smell under the influence of no other stimuli than odoriferous substances and electricity." (Muller's Physiology)

Different sensations excited by different agents in the organs of sense may be produced, as Muller remarks in the above quotation, by the same stimulus differing however in intensity or degree, or there may be a secretion sui generis adapted to each each organ of sense generated in its own peculiar division of the brain. (vide opposite page)

All the facts connected with the ascertained difference between the voluntary and involuntary muscles readily fall in with the theory that the function of the brain, in relation to the muscular system, does not consist in sending forth volitions; but solely in maintaining a copious supply of contractile excitement (whether galvanic or not) that the nerves convey that chemical energy, and disperse it promiscuously

~~while the weaker instead of being held in the state of tension which the influence upon not excited principle, would be an unnatural tension, and therefore do not fall out the natural contour as they do when under the commandment of the will, but gain a sort with all unnatural appearance~~

ching the muscles, and that the actual employment of the force rests with the mind present not on the cranium but in the limb.

A muscle, the antagonist of which is another muscle, comes necessarily within the control of the voluntary principle; for nothing else can command it; if that be withdrawn, a spasmodic contraction of the stronger of the two is the consequence. But if the antagonist for of any muscle or set of muscles be merely mechanical as it is in the heart, the stomach and the intestines, there will take place an oscillation or alternation, between the two unlike powers, that is to say, the supply of excitement from the brain being limited in quantity, or coming only at a given rate, it will be expended in overcoming the mu-

chemical force, which for a moment gains upon it; but during the interval of relaxation, the galvanic excitement has again accumulated and on its turn overpowers the mechanical resistance, and muscular contraction ensues.

The diastole of the heart, according to Gravilhier has the rapidity and energy of an active movement, bumping over pressure exercised upon the organ. So that the hand closed upon it is opened with violence, the mechanical force or elasticity of tissue interwoven with muscular fibre in the substance of the heart, reacting during the interval of relaxation required for the accumulation of the galvanic excitement exhausted in overcoming the mechanical resistance. The dilatations of the auricles appear to be much greater than can be accounted for by any bis a tergo, or by the elasticity of its substance (vide Carpenter's Physiology) can only be rationally accounted for on some thing similar to that above stated

Under other circumstances it would be at least a pleasant task to prosecute our inquiries through all the avenues which open up before us as we advance, to which indeed we may at a future time direct our attention. Yet lest ~~our~~ subject should be regarded too speculative, we at least give our undoubted recommendation, as much brevity as is consistent with a statement of the general outlines of the theory we respectfully propose. We shall close by inquiring what probably may be the use, or whence is the necessity of the (Galvanic) influence generated in the brain and thence conveyed to the muscles and organs of sense. Now our theory involves the supposition that the inherent perceptive faculty of the mind, and the same of its mechanical power, is so imprisoned within the solid substance of the animal body as to be totally screened from impressions of the external world, except just so far as this solid substance may be vehemently stimulated, commoved and rendered impressible by the powerful action of the (Galvanic) fluid. The very same irresistible agent which compels earths to yield their metallic bases, and which decomposes what nothing else can move, brings the animal fibre, and the vesicular expansions of the nerves into a state of excitability, such as enables them to correspond

to the vibrations of light, or of sound, or to the chemical properties of sapid, or odoriferous bodies. All that the mind needs for sensation is that the external material vibration as of light, sound &c should be responded to by an internal vibration or commotion of the animal substance: but this demands a highly charged (galvanic) condition of the organ of sense. It is as if a stretched wire, which faintly corresponds to a musical note might be made to do so more delicately and more forcibly by making it the channel of a galvanic current. It is not that the mind needs this excitement, but the fleshy organ needs it in order to its admitting the external vibratory impression.

The immensurous (Voltaic) apparatus which fills the cranium has station as we need suppose, to the instinct and the intellectuality of the animal body; and if the mind were imagined to be corporally combined with a highly elastic fluid, or an ether susceptible of the most delicate vibrations, there would be no more occasion for the galvanic stimulus; a mind thus embodied would need no brain, no nerves, no organs of sense and no contractile fibres.

The well-known effect of galvanism upon the limbs of a dead animal, may at first, appear not to comport with the theory proponded in this thesis; for in these instances muscular motion, which we attribute to the direct influence of the mind, resident in the limb is seen to be produced, — not by mind, but by the electric stream. We however gather a direct confirmation of our hypothesis from these facts; which indeed on due consideration, can hardly, if at all be made to consist with the common supposition of the transmission of volitions from the brain to the muscles through the nerves. If the office of the nerves is to transmit the volitions of the mind, distinctly to the muscles, we see them, in the case of a seperated limb, transmitting something very different — namely a galvanic stream; and yet although the cause is totally unlike, the effect is the as of a volition had been conveyed.

But upon our present supposition what happens on applying the galvanic wire to the sciatic nerve of a frog, is precisely what we should expect to happen. That is to say, the nerve, in this case, conveys the same, (or a similar) element which it has been wont to convey during the life of the animal. This exciting agent, namely the galvanic fluid is instantaneously suffused through the whole limb and is distributed in its accustomed proportions

to the entire system of muscles. But inasmuch as the mind of the animal has been withdrawn from those muscles, which, while it was present, either retained them all at rest, or employed one set of them at pleasure, this sudden chemical excitement, acting simultaneously, and without direction, upon all, nothing else can take place, than the triumph of the most powerful muscles of the limb, over the smaller and feebler; and thus, in the instance of the frog, the limb is forcibly projected from the glass that had contained it; this leap is the frog's most powerful action; and therefore, the limb stimulated to action without the mind,—leaps.

An analogous effect, follows in all cases, of the application of galvanism to bodies recently dead;—thus, the rabbit jumps and the human countenance is frightfully distorted, in consequence of the contraction of the stronger muscles of the face. If the weaker set of muscles could in this artificial manner be acted upon, placid and pleasing expressions would no doubt be produced. In the case of convulsive affections of the face, in the living body, the distortion arises plainly from this very cause, namely, a diffused muscular excitement, not directed by the mind, and therefore taking effect upon all the stronger muscles

among the muscles, and that the actual employment of the force rests with the mind, present not in the cranium but with him.

A muscle the antagonist of which is another muscle, comes exceedingly within the control of the actuating principle; for wishing she can counteract it; and if the be relaxed, spasmodic contraction of the stronger of the two is the consequence. That which happens among the muscles when their contractility is stimulated apart from the control of the mind, may be rendered familiarly intelligible by considering what takes place when a mast or balk, fixed perpendicularly is supported in three directions by chords, one of these chords being five times the size of the other two together. Then, if the three are equally moistened by a sudden shower, the mast is immediately drawn from the upright position, by the large rope; while the two smaller, its antagonists either loosen their attachment or are snapped. This mechanical effect suffers little on its proximate cause from what is observed in cases of epileptic fits - Tetanus - and spasmodic convulsions; for the direction and commanding influence of the mind be deserted or authorised while the contracts galvanic influence stimulus continues to flow from the brain to the extremities; it inevitably happens that, on each

* Spasmodic or convulsive muscular contractions arise, as we suppose, from the withdrawment of the mind, while the Chemical Stimulus continues to flow to the parts affected. On the contrary paralytic distortions we attribute to a partial suspension of the excitement furnished by the brain:— partial and just enough to allow the larger and stronger muscles to act—

set of antagonists, the more bulky or what is equivalent, the more excitable muscles, prevail over their feeble partners; and a rigid contraction is the consequence.* Thus the fingers are indented into the palms of the hand, and the temporal and masseter muscles, the natural power of which vastly exceeds that of the Digastricus and Platysma Myoides, hold the lower jaw, as if ironbound, in contact with the upper. But when the mental disturbance is removed and the voluntary principle returns to its seat and office, then this same force of the temporal and masseter muscles equal to 300 lbs weight, and by no means counteracted by an equal force in the antagonists, is held in equilibrio, and in fact is delicately balanced by the mental authority, as not only to act its part with precision in the mechanical operation of mastication, but to play in with the exquisite movements that govern the modulations of the voice. The part performed by the temporal and masseter muscles, in speaking and singing, might be compared to the service rendered by a powerful and well trained horse, required to pull within the scantness of an inch and in combination too with the power of a dog or a child; his whole force is always in readiness; but it is so under control, as to reach the precise limit required, and yet not to surpass it.

Too long continued exertion of the voluntary muscles produces a painful sense of the overthrow of the natural equipoise of the process. That is to say, the mind has been demanding motion at a greater rate than that at which the brain in its ordinary state, can furnish the contractile chemical excitement; and the limb drawing the pabulum, as it can, from the nerves of sensation, and from the surface a sense of pain follows; at the same time, the animal spirits fail. But it is manifest that the Mind, has a power of rousing the brain to an extraordinary effort so as to develope a more than usual amount of the electric element. Thus a powerful motive for continued exertion as when a man to save his life is running from his enemy, or preparing for the ordeal of the green room, disperses for a time the sense of fatigue. Nevertheless this power of extraordinary Galvanic developement has its limits; and the brain indicates afterwards, the violence which it has controlled to send refuse for a while to furnish even its ordinary quantum of chemical process.

1844

An
Inaugural dissertation
On
Chronic Pneumonia
Respectfully submitted
To the
Examination
of the
Provost Regents and Faculty of Physic
of the
University of Maryland
for the
Degree of Doctor of Medicine
By
David Stewart
of Baltimore

The condition of the lung in chronic pneumonia, is the result of a wise provision in the animal economy, by which inflammation; or its effects, are usually circumscribed; viz, the effusion of coagulable lymph, and albumen, into the cellular tissue enveloping an inflamed, lacerated, or contused part; or a foreign substance, or sphacelus. Why it is that one man shall have an inflammation of the parenchyma of the lung, a second of its mucous surface, a third of its serous membrane, a fourth a catarrh of the schneiderian membrane, with conjunctivitis, and a fifth laryngitis, all being exposed to the same exciting cause: and why it is that the first shall pour out coagulable lymph, the second mucus, the third serum, and

the fifth albumen, from the same fluid; we will not attempt to explain.

That a proclivity to inflammation of the respiratory organs exists in some constitutions is well ascertained; but it is difficult to understand the philosophy of its transmission from one generation to another, and perhaps more so, than to account for its elective affinity for (not only) an organ, but some particular part of it; and what is still more strange that in one family the same elements of the blood shall, with the same amount of inflammation, deposits tubercle in the same tissue, which in a more healthy individual, would receive lymph.

It may be said that the secretion of mucus, and the deposition of osseous matter, from the same fluids, are analogous: — but we answer that those organisms

which eliminate this fluid, or structure, are governed by fixed laws in this process; and although they are not controlled by the will, as in the insect; where wax or honey are secreted from the elements of sugar; as occasion may require; yet they correspond with the force of gravity, or the affinity of electrodes; and we are not prepared to admit a departure from this general law; but rather suspect some change in the original organism, a malformation existing in the ultimate ovule, perfected in some cases during uterine existence: as evidenced by the tuberculous lung that sometimes occurs in the fœtus: in other cases matured at the age of 20 or 30 — where less intense — as exhibited in those families where phthisis seems to fix the limit of the life of each child in succession, until it becomes a matter of

common observation that they cannot live beyond this age.

Or, upon the negative principle, we may say, that the absence of the same influence which causes a globule to degenerate into seven granular pus, which might under other circumstances form a healthy granulation; may cause fibro-albumi=nous matter; deposited during in=flammation of the lung for its pro=tection, to degenerate into tubercle; as it is composed of the same ultimate elements: and on the other hand, the same fibrin which elevates and sup=ports the walls of an abscess, or ulcer in the tibialis anticus; may, in fulfil=ling the same design in the lung, obtain a low state of vitality, and even become cartilaginous, requiring for its removal an amount of energy, in the part of which it is not suscep=

tito: at all events without foreign aid.

It has been remarked by a distinguished German philosopher: "that the art of the physician consists in the knowledge of the means which enable him to exercise an influence on the duration of disease; and in the removal of all disturbing causes, the action of which strengthens or increases that of the actual cause of disease."

To ascertain the character and seat of disease, and estimate the amount of interference which is consistent with the general health of the patient, is a more difficult, if not a more important, kind of knowledge.

That vital functional derangements of organs implicated by disease, do not afford us the best means of its detection, experience has abundantly shown: That physical diagnosis may mislead us is equally certain.

These remarks are eminently true with regard to chronic pneumonia: we shall endeavour to prove that few, if any, of the physical signs are to be depended on: per se. Then point out the rules which should govern us in its diagnosis; the general principles upon which it should be treated; and conclude with a case of symptomatic quotidian ague.

Our first proposition may be established by enumerating the physical signs, in their order, which may attend chronic pneumonia; and the proportion of these signs which occur in other diseases.

1st By inspecting the chest.

It may be indicated by general distension of the walls of the chest, or by bulging, by depression, by diminished motions of of expansion and elevation, and by altered relation of expansion to that of elevation. Now all of these may indicate

Pleurisy, or Tubercle, and the first two may depend on Cancer.

2d. Increased vocal or tactile vibration, observed by the application of the hand to the chest, may depend on chronic pneumonia tubercles, apoplexy, or Oedema.

3d. Diminished diameter, upon measurement, may also indicate pleurisy, or tubercles, as well as chronic pneumonia.

4th. By percussion, a dull sound, or a tubular character of sound, may both depend on dilatation of the bronchii; or tubercle, or cancer, or pleurisy, or chronic pneumonia.

5th. Weak respiration: detected by auscultating the lung, or suppressed respiration, or harsh respiration, or bronchial respiration, or blowing tubular variety, or blowing diffused variety, or subcrepitant rhonchus, or bronchophony, or bronchial cough, or intensity of heart sounds, or transmission of vascular murmur. All may indicate

chronic pneumonia; or pleurisy: except 7-11, and 12- or tubercle: except 3 & 12; or the first four Bronchitis; or Cancer, except 9th 11th and 12th.

6th. Protrusion of the heart to the right, may depend on pleurisy, cancer or chronic pneumonia.

The signs usually depended on are depression: especially in the infra-clavicular region, diminished freedom of costal movements, while the general motions are not perceptibly affected. Increased vocal, and tussive vibration, diminished antero posterior diameter in the infra-clavicular region, semicircular measurement of the side diminished; sound upon percussion diminished in clearness and duration, resistance increased; weak respiratory murmur in the affected part, heart sounds transmitted with undue intensity; but the most important

point is the previous history of the patient with reference to the acute form of the disease, — and the absence of a constitutional predisposition to tubercular disease.

If we assume that tubercle is beyond the reach of sorbefacient remedies, it may be of much importance to distinguish it from lymph, but if it is true that in a case of extra uterine conception, the soft parts of a dead fœtus may be absorbed; we contend, that, under favourable circumstances, tuberculous matter may be taken up; at all event, we may be encouraged to hope that its further deposition may be arrested; and fortunately, in those cases where it is most difficult to distinguish it from fever mania, the treatment of the latter would not be contraindicated by the former

should a fragment of, cork: or other organic matter, obstruct the passage of air through a valuable glass or porcelain tube; and it was found necessary to disorganise it in order to its removal, how would we proceed? A sufficient temperature might separate some of its elements, and render it pervious to the atmosphere, but a carbonaceous mass still remains, and it becomes necessary to pour upon it a stream of oxygen to volatilise the carbon in the form of carbonic acid, still it may be other elements remain which may require hydrogen to reduce them to a soluble state, and finally the inorganic matter, now rendered soluble by the hydrogen, is cleansed from the instrument and it is fitted for its proper use. Unfortunately, although we may know the constituents of fibrin

and albumen, they are not so easily removed from the parenchyma of the lungs as from a glass tube; we have however a stream of oxygen in the form of arterial blood; and although we cannot carbonise the foreign mass, in order to render it pervious to the stream of oxygen; yet the muscles of the chest may be more fully developed by exercise, and we may be able at the same time to distend some of the bronchii by pressure from within, and thus invite the circulation of blood to the part. We can also provide for the blood a supply of soda, in order to the formation of bile, by its combination with the carbon of the congulated mass, and we may, upon the same principle, charge it with a compound which we know gives it a tendency to take up its other constituents, and particularly fibrin, or which may at least

stimulate to its more rapid circulation, and thus excrete the more highly organized constituents, in the form of urea and lithic acid; the elements of which we know are constantly and exclusively derived from the waste tissues of all parts of the body. We also have a means of stimulating one of the great organs by which the effete carbon from useless parts of the system is separated from the blood; and we can disgorge its reservoir — the gall cist — occasionally. Now, if in any case the course of treatment indicated above can be pursued consistently with the general health of the patient, and if, at the same time, a course of hygienic discipline can be adopted, such as sea air, accompanied by a nourishing diet, much, if not every thing, may be accomplished. But, in a strumous habit, or where the

constitution has been impaired by excesses, or the empirical use of mercury as an alterative, or what is by no means the least evil, a desponding disposition — the prognosis must be a doubtful one; for, in the first place, we have the strong tendency to tuberculous deposition incident to an organ where it most frequently occurs; again, as the same vessels that ~~supply~~ nourish the pleura and supply the constituents of the fluid that lubricate its surface are distributed to the solidified lung, we may dread pleurisy, or the subjacent pulmonary structure through some slight error in diet, or constipation of the bowels, or other excitement — may take an acute pneumonitis; or, the difficulty of promoting the general health by a generous diet where the digestive organs are enfeebled, and it becomes necessary frequently to resort to

fumigations and enemata. — And with regard to dependency — the importance of avoiding it is evidenced by the success that frequently attends the inert quack nostrum where science has failed to cure — From the period when "an hexameter from the Illiad allayed the agony of the gout" until Perkins stood forth as the modern Hercules, we find even such men as the celebrated physician Sir John Floyer, practicing upon this principle and such patients as the illustrious Dr. Samuel Johnson carried to London, or to Boston, to be touched by Queen Anne or Dr. Rose. Hope and cheerfulness, then, are the sine qua non — and we must admit that the carmina should still have a place as well as the carminatives in our materia medica

"Spark of Heaven's own fire which
" " " exalts each joy, allays each grief,
"Expels diseases .... softens every pain,
"Subdues the rage of poison, and the plague,
"And hence the wise of ancient days adored
"One power of Physic, Melody and Song."

The following is a case of solidified lung in which I have become very much interested. It is no doubt chronic pneumonia; I have not been able satisfactorily to determine if it originated from tubercle. There are, however, several features which lead me, strongly to suspect it.

Sometime the spring of 1843 Mr. — aet. 28, called at my house with reference to some repairs. He appeared in bad health and accidentally mentioned that he was suffering from a quotidian ague; when he was about to leave I again referred to his health and he informed

me that he had been afflicted with this malady for a year — Dr. — who keeps a drug store had recently engaged to cure him with Bark &c but was unsuccessful — he had since taken several doses of calomel upon his own responsibility and was not under the care of any physician at this time — while asking him with regard to the origin of his disease, I placed my hands upon his shoulders and was struck with the resonance of his voice through the right clavicle: this might originate from the larger and more superficial branches of the right side but a marked propensity to throw his shoulders forward — an anemic countenance, and a cough that he had not been well since working in a damp room some time since, led me to suspect thoracic disease. These suspicions were soon confirmed — the right supra clavicular region was

dull on percussion, and the chest nearly as far down as the axilla; the resonance of the left lung was perhaps somewhat exalted above its normal condition: as he noticed the contrast and asked the reason. auscultation revealed puerile bronchial respiration in the infra clavicular region of the left lung, and the pulmonary respiration throughout that lung appeared to be exalted, or vicarious. While no vesicular murmur was observed in the dull region of the right side, and it was difficult to decide if the diffused bronchial respiration of the right mammary region was blended with vesicular murmur. Could not detect any irregularity in the pulsations of the heart, — pulse rather languid, but regular, and about 70 — respiration about 25, bowels in good condition, tongue clean and red, but not remarkably so, — a chill every day

at 11. A.M. followed by a fever.—
He taken arsenic with some relief,
was less benefitted by Quinine, and
the Bark in substance had produced
nausea, but still less relief.— I asked
him of the diseases of his family;— said
his father was a healthy man,— died of
quinsy (cynanche laryngea) after a
few days illness;— his mother had suf-
fered for consumption of the lungs for
20 years.— He appeared a little surprised
that I should be able to place my hand on
that part of his chest which had caused
him more uneasiness than any other,
and asked me, if I thought he had
consumption?— I told him that the condition
of his lungs might be improved, and
that his chills depended more upon it
than the usual cause.
Upon questioning him more particularly
with regard to the origin of his disease,

he told me that two winters since, he caught cold several times and in the Spring had a small hæmorrhage from the lungs,— but separately he caught cold from sitting on a cold stone when very much fatigued from a long walk;— was then attacked with the chills, & had experienced no relief from then since— although on one occasion Quinine had been given him until he was nearly deaf for two days from the noise in his ears—

I explained to him my reason for thinking that part of one of his lungs was not used, and the importance of inflateing it, if he wished to avoid consumption,— pointed out the muscles of the chest which would assist in the accomplishment of this object,— referred him to their size in the blacksmith;— advised him to cloathe himself in flannel, and use a pair of "Gambells" every morning as soon as he rose

from his bed: throwing up his window in pleasant weather during the exercise. I also instructed him to use a glass tube, inhaling forcibly through it several times each morning; recommended him to measure his chest with a tape and notice its improvement from time to time.

In a few weeks he called again and told me that he still suffered from the chills. Instructed him to try "Counter congestion" or Hæmostasis, the next day when he felt its approach. — Complained of profuse night sweats. ℞ Acid Sulphuric aromatic Gutt. x Ter. in die. In about ten days another visit informed me that the bandages had prevented the chills, and he was relieved of the night sweats by the drops; no material improvement in the lung. —

℞ Pulv. Ferri Carb. Precip. — Cum Sodium chloridum — dimid. Coch. min. om. die in

Syr. Rhei. After a few weeks another visit gave occasion for the following —
℞ Ferri Hydriodatis Syr. Gutt x Ter in die in infusione Quassiæ ℥j — continue exercise and use of Inhaler —
A few weeks gave me another visit. General appearance much improved less dullness in apex of lung — pulse good — appetite insatiable — but chills are troublesome — ℞ Strychniæ Gr j/60 — Ferri prot carb. pil ballotti Gr iv — Ter in die —
In about a week complained of nervous sensation — discontinue Strychniæ —
℞ pills ii ii acid arsenios. Gr j/30 — Quinia sul. ℈ss aqua fat. iij — Sig. una in hor. ante cen. die
After a few weeks another visit advised me of the persistence of these signs — appeared very much discouraged and seemed inclined to try a Thousonian course of steam baths &c — I explained to him the difficulty of curing his chills while part of

one of his lungs was acting as a splinter to prevent their coalescence. Told him my reason for hoping that the condition of his lungs was improving and advised him to use the following in conversation with the chest bells and exhaler: which he had continued to use thus far —

℞ Syr Sarsap. c. ℥x — Hyd Bichlor. gr iß
M. fac. Sig.ª Cochlear. Mag.ª Ter in die

This was repeated.

In a few weeks he again called — informed me that he felt much better. I now asked his exact appearance. He told me that he measured more than one and a half inches round the chest than when he was first measured, and that he weighed as much now as he formerly did with his overcoat on — a sense of right lung clear on percussion throughout the whole region, that had been dull, and respiration distinct —

Several months have since elapsed — I have advised him to seek employment in a warm and equable climate at all events during the winter months — but he has since acknowledged an exposure to cold night air in attending a wedding and some of the consequent parties — caught cold which he says was much less severe than that of the previous winter — had discontinued dumb bells and exhaler, as I had advised him to do in this event — The upper lobe of his right lung remained clear on percussion — but exhibited a peculiar coarse sound also a squeaking noise precisely like that exhibited by gum elastic when pressed forcibly between the teeth — these sounds were particularly manifest during a full inspiration, and were observed also in the base of

the lower lobe posteriorly and connection there with dullness on percussion throughout its whole extent. It is most probable that adhesions have formed throughout the whole posterior aspect of the right lung, and the next exposure will close the scene.

An

Inaugural Dissertation

on

Intermittent Fever

By

Thomas M. Palmer

of

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Baltimore Alms-House

February 1st 1844

Intermittent Fever

The subject of fever has been the theme of interminable discussion and controversy. – a theme which has drawn forth the best and the worst feeling of the human heart – which has furnished motives on the one hand, for the most active exertions of philanthropy and self devotedness, and, on the other, for all the bitterness and uncharitableness of feeling, which man, in his most degraded moments, is capable of manifesting. From the time of Hippocrates up to the present day, much has been written, and said, on fevers, and numerous have been the opinions, and hypotheses set forth and advocated, and still we are far from being informed as to what fever essentially consists in. We know that there is increased heat of surface, quick pulse, a general sense of uneasiness, languor, lassitude, sometimes delirium, and Coma, &c but the first cause of these phenomena, remains shrouded in obscurity. In fact there is no subject on which so much has been written, and so little known as fevers.

Hippocrates wrote a series of observations, on the rise, progress, and termination, of febrile diseases, which are so characterized by accuracy, comprehensiveness, and truth, that but few have been overturned by the researches of modern times. Instead of studying the phenomena, and effects of fever, and taking hold of that which was tangible, and useful, medical men occupied their minds, in tedious and profitless endeavours to discover the proximate cause of fever, the consequence of this, was, that our knowledge, was but little farther advanced in the time of Cullen, and Brown, than it was in the time of Hippocrates. There were innumerable learned discussions, and ingenious speculations, but there was nothing useful or real, or of any practical advantage, the many different theories, were more calculated to mislead, and puzzle, than to instruct and advance the cause of knowledge. The investigators failed from reversing the Baconian system of reasoning: they first formed a theory, and made the phenomena of nature correspond to it, they forgot to compare and arrange facts. Of first causes we know but little, and from what we do know, we have no accurate or

defined notions of fever. Almost every writer on fever proclaimed a new theory, and fancied that he had obtained the great desideratum; and many of these theories were supported by all the ingenious sophisms of philosophy. Hippocrates theory of fever was based on his belief in the body consisting essentially of four humors, viz; blood, phlegm, yellow and black bile. He believed that "increased heat was the sence of fever," and founded his division of the varieties of fever upon this principle. And he ascribed the different forms of fever to a superabundance of one or other of the four humors, and considered the disease as the result of a contest of Nature to expel the morbid humor. Galen who wrote many centuries after Hippocrates, supposed that succeeding physicians had misunderstood and misinterpreted him— And the chief object of his writing seems to have been to illustrate and explain the doctrines of the "Great Father of Medicine". In this he displayed great acuteness, and learning, but did not add much to the stock of practical knowledge. His example too had the unfortunate effect of introducing a taste for minute distinctions, and abstract speculations; while the close observation of nature

which characterized the writings of Hippocrates fell into neglect. So well was Galen satisfied with the correctness of Hippocrates hypothesis, that he contented himself with the mere amplification of the conjecture, and the addition of similar conjectures of his own. Whence assigning the different sources by which morbid heat, (which he also believed to be the essence of fever) may be produced in the human body. He says that the fevers thus produced are modified by the prevalence or putrefaction of one or other of the four humors of Hippocrates; that of the three kinds of Intermittent, the Quotidian arises from corruption of the phlegm, the tertian from that of the yellow; and the quartan from that of the black bile; that in whatever part of the body the heat begins, it ultimately extends to the heart; that as soon as this happens the general commotion of vessels commences, and that in this manner Nature is employed in exerting her powers, endeavouring to assimilate the good humors to the parts, which are to be nourished, and to expel the bad, but if at any time nature is unable to expel all the morbid humor, either from its thickness, its abundance, or its tenacity, or from some

obstruction of the passages, or from her own want of power, it will necessarily undergo putrefaction, if it remains long in the body; and produce the most fatal effects unless it be expelled by the process of concoction. Boerhaave attributed fevers to the same pathological causes as inflammation thus ascribing to them viscidity of the blood, Error loci, and an acrimonious state of the fluids. Brown refered them to Asthenia of the whole body. Cullen believed fevers to consist in "spasm of the extreme vessels" and diminution of energy in the brain; Dr Clutterbuck attempted to prove that fever is dependent in some degree on inflammation of the brain. Dr Fordyce describes fever as "a disease which affects the whole system: it affects the circulation, absorption, and nervous system; it affects the skin, fibres, muscles, and membranes; it affects the body, and it affects the mind, it is therefore a disease of the whole system, in the fullest sense of the term. It does not however, affect the various parts of the system uniformly and equally, but, on the contrary sometimes one part is more affected than another." Broussais asserts that all fevers may be refered to gastro enterite, simple

or complicated. From all the various opinions advanced by different writers, I am inclined to believe that Dr Pondyce is nearer right than any other; I believe that fever is truly a disease of the whole system. At the commencement it may only affect a single organ, but that diseased action is propagated by means of the nervous system, throughout the whole body, and it thus becomes a disease of the whole system. That it affects the nervous system more than any other part, is clearly shown by our treatment being almost entirely directed to the nervous system. But if medical men would write less, and think more, their services would be much more beneficial to the cause of suffering humanity. Fevers are usually divided into Intermittents, remittent, Yellow, Synocha, Synochus, Typhus, and Eruptive fevers. Intermittents (the subject of this essay) are divided into Quotidians, Tertians, Quartans, Quintans, and Double Tertians. This variety of fever occurs more frequently during the summer, and autumnal months, and is more prevalent in warm latitudes, for instance in parts of North and South America, in the Southern part of Asia, the Pontine marshes near Rome, in Holland,

and parts of England. Florida is particularly subject to Intermittent fever; and sometimes it sweeps over the whole country, and prevails as an Epidemic - at other times it is almost unknown, and only attacking now and then a solitary individual.

Causes - The causes of Intermittent fever are almost innumerable, almost any thing capable of producing morbid action in the human economy, will produce this unpleasant malady. Of the proximate, or first cause of fever, we know very little or nothing; though much has been written with regard to it, without any apparent practical knowledge being gained. The exciting causes of Intermittent fever, are marsh miasm, contagion arising from human effluvia, and epidemic influence. Some writers have supposed that marsh miasm was capable of producing Intermittents, and Remittents, and that human effluvia was restricted entirely to continued fevers. (Cullen). In the vicinity of marshes we may often trace the grades of miasmatic fever from the simplest and mildest varieties, to the most violent and fatal, as we gradually approach the focus of the deleterious exhalations. Eberle says the

only general cause of Intermittent fever is Koino-miasmata. "The tendency of Koino-miasmata" says he "to produce Intermittents is much enhanced by sudden changes of atmospheric temperature. Intermittents are never more prevalent than when the days are very warm, and the evenings and mornings cool and damp". And it is from this circumstance that in Florida during the months of September, and October, Intermittents are much more prevalent than at any other season, from the fact that during these months, the days are excepively warm, and the nights cold and damp, and at this season too, we have very heavy dews, and persons exposing themselves to the night air, are almost certain to have an attack of Intermittent fever, or as it is more commonly termed Chill and fever. And at this season also, North Easterly winds generally prevail, which seem to have a peculiar tendency to produce Intermittent fever, from their paping over a large extent of barren wilderness, and from being charged with the deleterious exhalations of putrid lakes, and stagnant streams. And the intermittents of this country are produced by the great

vicissitudes of weather to which we are subject, for in some years we have several months of incessant rain immediately followed by as many months of dry and intensely warm weather, and the effects of an almost tropical sun, and the humidity of the atmosphere exert a peculiar morbific influence on the human system. It is remarkable that during the rainy season, there is very little Intermittent fever, or sickness of any kind. But "the same rains which make a deep marshy country perfectly healthy, by deluging a well cleared one, where there is any considerable depth of soil, speedily converts it, under the drying process of a vertical sun, into a hot bed of disease." Whether Intermittent fever is propagated by contagion, I am wholly unable to say, but I have often known persons, going into a district infected with it, have it immediately on returning to a more healthy and salubrious part of the country but whether it was caused by being exposed to the influence of fever, or from miasmata, I could never positively determine.

Symptoms.— Intermittent fever is characterized by three distinct stages, the cold, hot, and sweating

stage. The first approach of an attack of Intermit-tent fever is generally announced by a degree of Lan-guor, and debility, general uneasiness and restlessness. the patient without any apparent cause becomes weak, and restless, and throws himself upon a bed or couch, and gets up immediately, and walks from place to place, feels chilly, and has a sensation as if a stream of water were pouring down his back, his countenance is pale, and shrunken, and skin corrugated. The extremities feel cold and benum-ed, the finger nails present a bluish appearance. there are long fits of yawning and stretching, and at this time there is generally headache, sometimes stupor, and pains in the back and loins, the bulk of the whole body is diminished, and the skin appears constricted as if cold had been applied to it. At length the patient feels very cold, and the rigors commence with pains in the extremities nausea, sometimes vomiting of bilious matter; the respiration is laborious frequent, and anxious, the Urine, is almost colourless, sensibility is greatly impaired; the thoughts are somewhat confused;

the pulse is small, frequent and irregular; and in some few instances drowsiness and stupor have prevailed in so high a degree as to resemble coma, and apoplexy, but this is by no means usual. Sometimes the rigors terminate in convulsions; the patient has great desire for warm drinks, and to cover himself with as many bed clothes as possible. the paroxysm sometimes comes on without any rigor, in the place of which the patient feels a slight sensation of cold, or severe headache, is lethargic, or is affected with languor, and yawning, at other times the hot stage is ushered in by violent articular, lumbar, and frontal pains, and sometimes the patient falls into a profound sleep for several hours, and awakes in a violent hot stage, these various forms are vulgarly termed the dumb ague.

It is a circumstance no less strange than true, that although the patient complains of such intense cold, the heat of the body is every where above the natural standard, except the extremities. The duration of the cold stage is various, but is rarely less than half an

hour, or more than four hours. Doctor McIntosh however relates a case where the cold stage continued twenty six hours. Sometimes an icy coldness steals over the surface of the body, and it is nothing uncommon for patients to die in the cold stage, and in the congestive Intermittents of our country, where the blood retreats from the surface, and engorges some internal organ, unless the most prompt measures are used to relieve that congestion, the patient inevitably sinks.

Hot Stage.— After the cold stage has continued for a longer or shorter period, the hot stage commences, they gradually run into each other, there being no distinct interval between the two. The skin becomes hot and dry, and sometimes pungent, the face is flushed and swollen, the respiration hurried and anxious; the thirst is urgent, and the patient has a great desire for cold and acidulated drinks; the tongue is dry and parched, and sometimes covered with a thick coat of white or brown fur, the patient is very restless there is general uneasiness and oppression at the praecordia there is almost invariably acute pain in some part of the body, generally in the head, or in the lumbar

region, but often in the thorax, stomach, in different parts of the abdomen, in the region of the liver &c: there is often disturbance of the mental faculties, and sometimes furious delirium, there is frequently tinnitus aurium; violent throbbing of the carotids, and temporal arteries, the pulse is quick, sharp, bounding, and full, even in patients who are much debilitated. The urine is scanty and high colored, with a sediment; the temperature of the body is greatly augmented during the hot stage, and Dr McIntosh says the thermometer will rise to 110° Fahrenheit during the paroxysm. The duration of the hot stage, is generally much longer than the cold stage, and continues from two or three to twelve hours, and this stage terminates in the last or — Sweating Stage. — When the perspiration commences there is an obvious abatement of all the febrile symptoms; the sweat usually makes its appearance on the forehead, neck, and breast, and gradually becomes diffused over the whole surface. On the appearance of the perspiration, all the unpleasant symptoms subside, the pulse loses its hardness and frequency, but retains its fulness, the pains disappear, the

respiration becomes natural and easy, the mental faculties are relieved the tongue and mouth become moist, and the skin assumes its natural feeling. This gradual relief of all these symptoms, continues under a free flow of perspiration, until the paroxysm terminates in a stage of convalescence or apyrexia.

Treatment of Intermittent fever. — It was formerly a disputed point among physicians, whether intermittent fever should be immediately cured, or allowed to run on for sometime. Many believed that it was a disease that benefited the system, and that it was the natural cure for some other disorder of the constitution, and therefore it would be injurious to cure it. Some still believe that it will cure itself and terminate spontaneously, and they contend that no medicines are necessary except laxatives to keep the bowels open; this treatment may be successful in a few mild cases, but it would generally fail, for occasionally we meet with a case, which baffles all our remedies, and probably may continue for several years. Dr McIntosh's treatment of this variety of fever is "bleeding in the cold stage, combined

with laxatives, and the occasional use of the Sulphate of Quinine." He divides the treatment into four parts, that in the cold Stage, that in the hot Stage, that in the Sweating Stage, and that adopted in the intervals, to prevent a return of the disease. "In the cold Stage" says he "which generally lasts from half an hour, to two or three hours the first thing to be done is to endeavour, by every means in our power, to restore the heat of the body, and relieve uneasy feelings, with a view to shorten its duration, and bring about reaction. Hot applications; additional bed clothes; warm drinks; Stimulants. &c. The best method of applying heat, is to surround the patient with bottles filled with hot water. It is a common plan to give a bumper of gin or brandy, with some pepper to create reaction, and cut short the cold stage; and there can be no doubt, that it has sometimes succeeded, but I have seen much injury ensue in many cases. Bleeding in the cold stage, will in a great majority of instances, cut it short; in fact it will rarely fail in stopping the existing paroxysm, and on many occasions it has prevented a return of

the disease to which the patients had been long subject, and by which they were nearly worn out. It is difficult to determine what quantity of blood it will be necessary to draw in any given case; sometimes it requires twenty four ounces. I have known three ounces suffice, and in one case an ounce and a half produced the full effect. The larger the orifice in the vein, the greater is the chance of arresting the disease, at a small expense of blood; but in many cases the operation is attended with considerable difficulty, from the convulsive tremors which affect the body, I was once successful in arresting the disease by bleeding, in a cold stage which had lasted twenty six hours; but I regard this an extreme case. The blood sometimes only trickles down the arm; and as the system is relieved, the stream becomes larger and stronger, till at last it springs from the orifice, and frequently before six ounces are taken, the patient will express relief from violent pain in the head, and time and it will soon be observed that he breathes more freely. The tremors become slighter and slighter.

and, by the time a few more ounces are abstracted, they will cease altogether, and with them will vanish the painful sensation of cold. The pulse will be found stronger, and a gentle moisture will be observed on the body. If the patient be properly managed with regard to bed clothes neither hot nor sweating stage will in general follow. Most of the patients who have been treated by myself, or by my pupils under my immediate inspection, have fallen asleep immediately after the operation; but some have even got up and dressed themselves. It may be proper here to state that in almost every case, previous to using the lancet, I have thought it right to exhibit a small dose of Calomel and Jalap, which was repeated daily until the patients tongue appeared clean, or at least until it has felt soft, and until the contents of the bowels have been well cleared out.

Treatment of hot Stage. — The best treatment which can be pursued in the hot stage, is to remove the bed clothes as far as the season, and the patients feelings will admit; to sponge the

extremities with water; to use cold drinks; and in fact to employ every means which can diminish the temperature of the body. If there be symptoms of local inflammation, bleeding is to be had recourse to either general, or topical, which has always been employed by judicious practitioners in such cases. I need not speak of febrifuge and diaphoretic mixtures, which are very good for the druggist, will aspirit in filling the pockets of the routine practitioner, and suit the notions of the symptomatical physician. It is more than doubtful, whether such medicines ever diminished the violence, or shortened the duration, of the hot stage of an Intermittent.

Treatment of Sweating Stage. When the sweating stage commences, it must be encouraged, until the unpleasant feelings are relieved, or at least mitigated. Great injury is done by allowing patients to perspire longer, by which they are not only unnecessarily weakened, but the subsequent paroxysms of the disease, are in general rendered more violent. The best way of exciting this stage, is to

change the linen after drying the patient carefully with towels, and to place him on a couch. A second paroxysm has frequently been traced to a chill, occasioned by the coldness of the damp clothes, towards the termination of the sweating stage. Should there be no marks of local inflammation, the patient may be offered light nourishing food and even wine if necessary.

Treatment during the interval. — Peruvian Bark in substance, decoction, infusion, or extract, is given during the intervals, for the prevention of intermittent fever; but no one who has seen the superior efficacy of the Sulphate of Quinine, will be persuaded if he can obtain it, ever use bark in any of the other forms. The manner in which I have prescribed Quinine, is to give three doses of five grains each, with half an hour of interval, immediately before the expected paroxysm; or three grains every half hour, beginning about three hours before the expected paroxysm. Arsenic has been long in use in intermittent fever, and there can be no doubt that it has often proved serviceable.

Fowler's Solution is the preparation now in general use, under the name of Liquor Arsenicalis; the dose is from two to twenty drops twice or thrice a day. Other tonics and bitters have been recommended, the best of these is the infusion of Quassia. Opiates have been exhibited immediately before an expected paroxysm, and sometimes with benefit, but they generally produce violent headache. Laxative Medicine to keep the bowels open form an essential part of the treatment; and in general the stools should be examined; sometimes patients give an erroneous account of their stools, with regard to number, and appearance; and upon the bowels being put in proper order, the disease has given way without further trouble. "The patient should be clothed according to the season of the year, and the temperature of the climate. He should avoid exposure in bad weather, (particularly in this climate during the prevalence of easterly winds) and keep to the house after sunset, until he be sufficiently recovered." Dr McIntosh's reasoning with regard to the propriety and success of bleeding in the cold stage

is very plausible, and from a man who stands so high in the profession, as a successful practitioner, and talented writer, we must put some confidence in his opinion, though I doubt very much the propriety of bleeding in the cold stage, in this country.
I believe that it may prove successful in many cases, but I never would have recourse to it, only as a dernier resort, for I think it must be a hazardous practice, to abstract blood when it would appear that all the energy of the system was required, to support its sinking powers.
Eberle "considers the treatment of intermittent fever under two heads; that which is proper during the paroxysm; and that which is to be employed during the intermissions, and upon the radical cure of the disease depends. During the cold stage of an intermittent, the patient ought to be kept moderately warm; and as the thirst is generally very urgent, bland warm drinks should be freely allowed. In general, however, stimulating drinks and the application of much artificial heat, with the view of moderating the distressing

sense of cold, are exceedingly improper; since they very rarely lessen the feeling of chilliness, and tend often considerably to increase the violence of the succeeding hot stage. These observations apply to the regular disease, occurring in individuals of sufficient vital energy to develop the hot stage, without any artificial support. When the patient is feeble, nervous or exhausted, it will generally be beneficial to aid the vital powers during the cold stage, both by internal and external exciting agents, more especially by the application of external heat. Without such aid, the cold stage will probably be greatly prolonged, and the system so oppressed by internal congestions, as to prevent the regular development of the subsequent stages. An emetic administered at the beginning of the cold stage, will frequently put a speedy termination to its progress; and a full dose of opium taken a short time before the expected occurrence of the chills, will generally have the same good effect. Compression by the tourniquet, also, was some years ago strongly recommended to the profession for arresting the cold stage of Intermittents by brilliant

Dr Kellie asserts that by obstructing the circulation in an upper, and in a lower extremity, by means of the tourniquet, we may in general, stop the cold stage in three minutes. The limited experience which I have had in relation to this practice, does not confirm this very favorable account of its effects; although some, and occasionally, considerable advantage may, perhaps, no doubt, be obtained from it. I should apprehend, however, in vigorous and plethoric subjects, considerable danger must attend this practice, from the tendency which it must have to favour vascular turgescence, of the brain; and thereby dangerous oppression, and apoplexy. In the hot stage, it sometimes becomes necessary, to moderate the violence of the febrile excitement; especially when delirium or alarming local determinations take place. Bloodletting is of course the most direct and efficient means for this purpose, and where the indications for antiphlogistic measures are strong, it ought to be promptly employed. In agues of a decided phlogistic diathesis, bloodletting during the hot stage will often contribute considerably to the successful employment

of the bark in the intermission. I have sometimes known the bark promptly efficient in arresting the disease, after a copious bloodletting during the paroxysm, where it had previously failed. In cases attended with a hot and dry skin, and a full and vigorous pulse, cool, bland, and acidulated drinks, are both grateful and salutary.

A draught of cold water while the skin remains dry, will often speedily subduct the febrile heat and predispose to perspiration. It may also be proper, in instances of very high general febrile excitement, to exhibit some of the refrigerant diaphoretics, such as Nitre, Antimony, — the Saline effervescing mixture.

℞. Spirit. Mindereri ℥IV. Spirit. Nitr. Dulc. ℥ij. Vin. Antimon ʒI. Syrup Limonis ʒI. M. Take a tablespoonful every hour. As soon, however, as the skin begins to be moist, cold drinks must be withheld. During the last or sweating stage, we may allow tepid drinks of a bland character freely.

When the stomach is extremely irritable — giving rise to frequent and violent vomiting, tepid diluents should be given, until there is reason to think the

bile is discharged. Opium is perhaps our best remedy for checking excessive vomiting in this disease. This article does not often aggravate the violence of the reaction when given in the hot stage, as might be apprehended. To put a stop to excessive vomiting in this, as well as other diseases, not attended with phlogosis of the mucous membrane of the stomach, I know of no medicine which is more promply, and certainly effectual, as a Solution of Camphor in Sulphuric Æther, in the proportion of two drachms of the former, to an ounce of the latter; of which 20 or 30 drops may be given with about ten grains of Calcined Magnesia, every half-hour until the vomiting is arrested. I have rarely found the second dose necessary.

Among the various articles which have been recommended for the cure of Intermittents, the Peruvian Bark, and its preparations, is unquestionably, by far the most important. Within the last ten years, the sulphate of Quinine, has in a great measure, taken the place of the bark in substance, and in many respects, this preparation possesses important advantages over the crude material. It has indeed been said,

that the bark itself will sometimes remove the disease, where the quinine has failed; but the converse may be said with equal correctness; for, I have in several instances, succeeded with the latter, after the former had been used in large doses without success. With regard to the particular period of the intermission, at which the bark may be most successfully given to arrest the succeeding paroxysm, a diversity of sentiments have been expressed by writers. Some have advised its employment in large doses immediately after the sweating stage has passed off; whilst others recommend it to be given largely "as near to the time of the expected paroxysm as the condition of the patients stomach will allow." (Cullen). There are others again, who think it best to exhibit the bark in divided and frequent doses throughout the whole period of the intermission. (Hodge). A few years ago Dr Ridgway, published some cases, which go to show that one large dose of Cinchona given as near as possible to the commencement of the approaching paroxysm, will as certainly arrest the paroxysm, as when given in repeated doses throughout the intermission. According to Dr Browns experience, two or three grains of the quinine taken just as the first

symptoms of the approaching paroxysm are experienced, will when followed up by a second, and third, at intervals and sometimes a fourth dose, almost invariably put a stop to the disease. Dr Ridgway gave an ounce of the bark at once, as soon as the premonitory symptoms were felt, and always found it to prevent the attack. I have generally prescribed the quinine in two grain doses, every hour, commencing about six hours before the approaching paroxysm; and I have had no cause to be dissatisfied with the consequences. The Peruvian bark has been frequently accused of having a tendency to produce visceral indurations, and other unpleasant consequences, such as Rheumatism, dropsy, &c. This accusation is however wholly unfounded. No doubt indeed can exist that these and other injurious consequences may be produced by the <u>injudicious</u> use of this remedy. When given, for instance, in agues, attended with strong marks of an inflammatory condition of the system without proper antiphlogistic preparatory measures, we can readily conceive that the bark would favour the natural tendency of such cases to terminate in these

disorders. In this respect, however the bark does not differ from other tonic and stimulating remedies; for it is not by anything peculiar in the bark that these effects are produced, but simply by the power it possesses, in common with the majority of febrifuge remedies, of favouring the phlogistic diathesis, and the progress of obscure inflammations.

The bark is now generally given by itself. When it causes much constipation, it may be usefully given as follows:

℞ Pulv. Cinchon. condam. ℥j. Pulv. Rhei ℥ss.

Pulv. Muriat. ammoniae ℥j. M. Divide into four powders one to be taken every hour or two. When the bark purges it should be given with Pulv. Doveri. or Opium.

Alkaline remedies are necessary where there is much acidity of Stomach. The Subcarbonate of potash is an excellent adjuvant to the bark in cases of this kind, from ten to twenty grains of the alkali may be given, with each dose of the bark; and to prevent this from acting on the bowels, which it is apt to do, it necessary to make a trifle compound. viz. bark, subcarbonate potash, and Opium, or what is better confectio Opii.

When the stomach is irritable it is necessary to combine the bark with aromatic substances (in order that it may be retained) such as Serpentaria, or Cloves, or nutmeg, or the Calamus aromaticus. The Serpentaria is, perhaps the best aromatic adjuvant to bark, where the stomach is too weak to retain it singly. The employment of the quinine is much less apt to produce the inconveniences just mentioned than the bark in substance; but even this preparation will sometimes produce violent vomiting and purging — several very violent instances of which I have encountered in my practice. The most convenient and elegant formula for exhibiting the quinine is perhaps the following:

℞ Sulphatis Quinae grs XVI. Olivin. Vitriol. gtt. XVI.
Syrup Limonis ℥j. Dose a teaspoonful every hour or two for an adult. As this mixture, though a very neat and concentrated one, is sometimes much objected to on account of its bitterness, especially by children, I have generally prescribed it according to the following formula, by which almost all the bitterness is wholly removed.

℞. Sulphat. Quinae grs. ij. Elixr. Vitriol gtt x.
Pulv. Extr. Glycyrrh. ʒij. aqua font. ℥ij. Dose a teaspoonful for a child between two and five years of age.

Besides bark, and its preparations, a vast variety of other remedies, drawn both from the mineral and vegetable kingdoms, have been employed. The most efficient of these articles, are the following; viz: the barks of the dog-wood, (Cornus Florida;) of the American Tulip poplar (Liriodendron Tulipifera;) of the Horse-chesnut (Aesculus Hippocastanum) of different oaks; of different species of willow; the Virginia snake root; Columbo; gentian; quassia; &c. Coffee in doses of from fifteen to twenty grains every hour; the black or cellar spider-web, is highly recommended by Dr Robert Jackson as a remedy in Intermittents. The Muriate of Ammonia is favorably mentioned by Richter as a remedy in this disease. The Muriate of Ammonia is, perhaps, the most powerful remedy we possess for resolving indurations, when given in very large doses internally. Among the mineral preparations, Arsenic is undoubtedly the most efficient, with the exception, perhaps, of the Sulphate of Zinc. Arsenic is improper in phthisical constitutions.

and where a strong phlogistic tendency prevails; in indi-
-viduals of a cachectic habit, or where there is a scorbutic
tendency, it is apt to cause dropsical effusions, as well as
great debility. The usual mode of prescribing it is in the
form of Fowlers Solution, or the liquid Arsenite of potash;
and in substance combined with opium, in the proportion
of one tenth of a grain, of the oxyd of Arsenic, to one
fourth of a grain of opium, every three or four hours
during the apyrexia. Biettes Arseniate of Ammonia is, I
think decidedly the best arsenical preparation for inter-
-nal use. The Sulphate of Zinc is an excellent remedy
for the cure of intermittents. I have usually employed
it according to the following formula:

℞ Sulphat. Zinci grs. x. Pulv. Capsic. Ann. ʒij.
Conserv. Rosar. q. s. Make into forty pills,
one to be taken every two hours during the intermission.
Black pepper also, is strongly recommended by Dr L. Frank
for the cure of intermittents. It is given in doses of
from five to ten grains every two or three hours.
Tartar Emetic has recently been successfully employed
in intermittents by Recamier, at the Hotel Dieu.
It is given in pleisans so as to produce both emetic and

purgative effects. The sequela of this form of fever are both obstinate and dangerous in their consequences. The most common of these are – oedema of the feet and legs; enlargement and induration of the liver and spleen; jaundice; dropsy; &c. In nearly all of these secondary affections, mercury may be regarded as our curative means. Four grains of blue mass with two of Pulv. Ipecacuanha ought to be taken every night on going to bed, and a dose of salts taken every fourth or fifth day. Some mild bitter infusion may be taken twice or thrice daily, during the use of mercury. The formula for using the Muriate of Ammonia in visceral indurations is the following:

℞ Muriat. Ammoniae ℥ß, Pulv. Extr. Glycyrrh. ʒj.

Tart. Antim. gr. 1. Aqua font. ℥viij. Dose, a table spoonful every four hours during the day. Iodine is, perhaps, the most effectual remedy we possess for indurations of the spleen. From eight to ten drops of the tincture should be given three times daily. "We may also use the Iodine in the form of frictions over the left hypochondrium ℞ Hydriodat. potassae ʒij. Axungiae ℥ß.

Liq. potass. caust. gtt. V. Rub in the size of a nutmeg of this ointment three times daily."

The treatment of Dr Eberle is much better adapted to the intermittents of the South than any other work which I have read, indeed he seems to have been well acquainted with the disease occuring in Southern latitudes. But notwithstanding he has discussed the subject so ably there are some points in which his treatment might be improved, in fact almost all the Northern authors treat diseases very differently from what is found by experience and observation to be the most successful at the South. There is such a material difference in the diseases themselves that the treatment must necessarily differ also.

With regard to the opinion entertained by some of the older writers that intermittents exercised a curative influence over the human system, or was the natural cure for some other disease, it is entirely erroneous, or if it is really so the remedy is much worse than the disease for I have often known patients to die in the second or third cold stage of an intermittent

The usual autumnal intermittents of the South are generally very easily controled if remediate measures are used in time, but it will not do to let the disease

run on to the seventh, or even the third or fourth paroxysm, for there is always a strong predisposition to terminate in the Congestive form of Intermittent fever which is a very formidable disease to contend with, and on that account practitioners cut off the disease as soon as possible. The treatment of Intermittent fever at the South is usually divided into three periods, that during the cold stage, that during the hot stage, and that during the interval.

The treatment during the cold stage, is generally to administer warm drinks, and apply warmth externally by means of bottles of hot water placed in contact with different parts of the body, hot bags of sand, warm fomentations &c. the drinks are generally administered for their stimulating property for this purpose the Capsicum Annuum, or Cayenne pepper is more generally used than any other substance, a strong decoction is made and is administered to the patient as hot as he can conveniently take it. I have known hot brandy to be substituted for the Capsicum, but I believe that to be unnecessary as the pepper has all the good effects without

any of the deleterious effects of brandy. When it is very difficult to bring on reaction, and there is a fear of the patient dying in the cold stage, we have to use the most active means for the production of reaction, the extremities are put into hot mustard baths and sometimes a strong decoction of the cayenne pepper is used, the extremities are rubbed with dry mustard, sinapisms are applied, and after the sinapisms have produced a slight redness of the skin, they are removed, and blisters used for the purpose of continuing the reaction thus produced, but notwithstanding these active measures being used, the patient very frequently dies in the third or fourth cold stage. After reaction takes place it is generally as vehement as the cold stage is protracted and intense, when the pulse is very full, hard, and frequent and there is much arterial excitement we bleed generally, until some perceptible impression is made on the pulse, cold affusions are used, and the whole body is sponged with cold water, and the head is kept constantly moist with cold water, cool, and acidulous drinks are administered, iced lemonade, a cold infusion of orange leaves and of the lemon grass &c. and every thing is done to

moderate the excitement as much as possible. After the fever has continued for four or five hours, the all the unpleasant symptoms gradually decline under a gentle diaphoresis, until a perfect convalescence, or apyrexia ensues.

The remedy in which the Southern physicians place most reliance, is the Sulphate of Quinine, and it is a remedy justly deserving all the encomiums which it has received, and the discoverers of this remedy deserved to be ranked among the greatest benefactors of mankind. indeed there is no remedy whose effects may be more certainly relied upon. The mode of using it varies according to the disease in which it is administered. In Intermittent fever it is given now, at the termination of the hot stage, and given most generally in large doses. As soon as the skin becomes moist, thirty grains of quinine are administered at a single dose, and almost invariably it cuts the disease off, immediately, and a second dose is rarely ever necessary. In thirty cases of intermittent fever in which I administered it in large doses there was only one cases in which a perfect cure was

not effected. This of course is not all the treatment of an Intermittent fever. the quinine is followed in about four hours with a cathartic consisting of. ℞ Calomel. X grs. Pulv. Rhei grs XV. at one dose, or Calomel. grs XXV. at one dose. In the course of ten or twelve hours, an ounce of Sulphate Magnesia or of Ol. Ricin. ℥j. is given. This is generally all the medicine required in our simple intermittents.

There are occasionally persons met, with on whom the quinine does not have the same good effect, (given in large doses) which it generally has, but these cases are "few and far between". When it does not have the desired effect in large doses it is to be given in smaller doses, every two or three hours, during the interval. With regard to the proper time for administering quinine in large dose physicians differ very much, some give it at the height of fever, and others give it immediately before an expected paroxysm, and others, as I have already stated give it at the commencement of the sweating stage. It acts with benefit given at either of the former stages, but I believe the last stage is more generally adopted as the best, and most proper time for its

administration. With regard to the Modus Operandi of quinine, it is a difficult question for me to answer. My own opinion is founded upon the experience and observation of others, which is that in large doses it acts as a nervous sedative, and from the opportunities I have had of observing its effects, I have not a doubt of the truth of the assertions. I have seen patients, labouring under great restlessness, headache, and sometimes delirium, after taking twenty five or thirty grains of quinine, all the unpleasant symptoms would disappear, and in a very short time the patient would be in a quiet slumber. That quinine acts as a nervous sedative, seems also to be proved by its successful use in some cases of neuralgia and other nervous diseases. When Intermittent fever is complicated with gastric irritation or inflammation the patient must be cupped over the stomach, and a blister applied over the abdomen, and if the vomiting is excessive, a dose of Opium must be given, or a solution of Camphor in Nitric Aether, or probably what is much more efficacious, one drop of Hydrocyanic Acid, in an ounce of water taken at a dose.

The treatment during the interval is generally very simple, sometimes the quinine is used for several days in doses of two or three grains every two or three hours, but generally a mild tonic is used such as a decoction of the Cornus Florida and the Prunus Virginiana barks sometimes the bark of the root of the Liriodendron Tulipifera is used. The Eupatorium Perfoliatum has acquired considerable reputation in the cure of intermittents, it acts as an emetic, diaphoretic, and tonic, and is usually given at the termination of a paroxysm of fever, as a tonic. When given as an emetic, it is combined with Tartar Emetic, and when given just before an expected paroxysm, it frequently arrests the disease entirely. As a tonic it is given in cold infusion, an ounce of the Eupatorium, or as it is more generally called Boneset, is infused in a pint of boiling water and then allowed to cool, of this a wineglassful is given three times a day. When used as an emetic it is prepared in the same manner, but given warm, with half a grain of antimony at each dose. The domestic remedy for intermittent fever, is a strong infusion of the Eupatorium perfoliatum, combined with salts, given three times a day.

The congestive intermittents require the most active and judicious treatment, sometimes the extremities become cold, and clammy, and the head, and stomach are very hot, and dry, the patient complains of no pain but appears perfectly easy, and quiet, so much so that a casual observer would say that very little was the matter with the patient, and he is not aware of his own condition, and only complains of weakness when probably he is just on the verge of the grave. It is without doubt one of the most insidious diseases known, the patient retains his intelligence to the last, and is in some cases able to walk about the room, within thirty minutes of his death, indeed I saw a case last summer where the patient came very near dying in his chair, he was sitting up conversing very rationally, when he complained of a little giddiness, he was carried to the bed, and in ten minutes was dead.

In these cases success depends upon the timely use of stimulants, and endeavours to excite reaction, and draw the blood from internal organs, if reaction can be produced the patient is usually considered out of danger.

The treatment consists in the use of the hot mustard bath, frictions with dry mustard, sinapisms to the extremities, blisters over the abdomen, fomentations with hot brandy. The other treatment consists in the internal use of Calomel, Opium, and Quinine, in combination, according to the following formula.

Calomel grs ij.

Opium gr ß.

Quinine grs viij. To be taken at one dose every four hours.

This treatment if persevered in will sometimes effect a cure, when there is scarcely any room to hope. During the convalescence the patient must take ten grains of Blue mass two or three times a week, followed in the morning by a dose of salts, or a Seidlitz powder.

The most usual sequelae which we have to treat is enlargement of the spleen, and oedema. The enlarged spleen is usually treated successfully by the internal use of quinine, in large doses, that is from forty to eighty grains in the twenty four hours, and sometimes it is used endermically, in the form of ointment. The good effect of the internal use of quinine is

much increased by local bleeding, either by leeches, or cups over the region of the spleen. Iodine is also used in combination with mercury, when the latter is not counter-indicated. the form for it is administration is the Deuto-Iodide of Hydrargyri grs V

Pulv. Sacchari Albi. q. s. to make forty pills. Dose, two morning and evening, to be gradually increased. The tinctura Iodini, is sometimes used, in doses of ten drops three times a day, and an ointment is used externally, composed of Iodine ʒß

Iodid. potaß. ʒj

Lard ʒij. or in the form of the Proto Iodid. Hydrargyri ʒj

Adipis ʒviij.

This ointment is to be used twice a day, and rubbed in very hard over the spleen.

The treatment of the oedema is to give cathartics, and the infusion of juniper berries, associated with the Bitartrate or the Acetate of Potassa

Baccar. munip. ℥j

Potassae bitartrat. ʒij. Aquae fervent. ℔ij. To be used as a common drink, whenever the patient is thirsty.

A solution of Bitartrate of potassa, is sometimes given as a common drink, made into a kind of lemonade.

Potas. Bitartrat. ℥ij
Cort. Limon. recent. ℥i.
Saccher. ℥i.
Aquae bullient. ℔j.

The squill is also used either alone or in combination with nitrate potassa, and digitalis

Pulv. Scillae grs iij
Pulv. digital. grs iij
Nitrat. potas. grs XV

Make into three pills dose one three times a a day.

An
Inaugural Dissertation
On
Lithiasis
Submitted
To
The Examination
Of
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For
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Doctor of Medicine
By
William D. Dalrymple
of Baltimore
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To
N. R. Smith. M. D.
Professor of Surgery.
in the
University of Maryland
This
Dissertation is very
Gratefully inscribed
By
His pupil
The Author.

Lithiasis.

Definition. Lithiasis. (from λιθος. a stone.) the formation of stone or gravel in the human body. more particularly found in the organs which act as ~~ducts~~ resorvoirs, and in the excretory canals, those that occur in the resorvoirs or ducts, are supposed to be owing to the deposition of the substances which compost them from the fluid as it passes along the duct or remains in the bladder, and those that occur in in the substance of an organ are regarded as the product of some chronic irritation.

Symptoms. General and Local. — 1 Irritability of the bladder. — frequent irresistible desire to make water. — 2. Occasional sudden stoppage of the stream of urine during micturition. from the circumstance of the stone falling on the orifice of the urethra and acting as a valve. — the stream probably flowing again if the patient throws himself upon his hands and knees. — 3. Occasionally pain at the neck of the bladder. — always severest after micturition. because the bladder contracts more closely around the stone, than before it was voided: the pain is sometimes slight, but is more generally severe, and is described by the patient as a cutting sensation; or as if boiling water or lead were passing throug the urethra, frequently the faces are discharged at the same time with the urine, and a prolapsus ani. is a very common occurrence, owing to the excessive action of the muscles of the perinæum. and lower opening of the pelvis. more particularly in Children —. 4. Pain in the glans penis, children afflicted with this disease may be observed to be almost continually squeezing the glans penis, and drawing at the frænum or prepuce, and by which means they become considerably elongated. — And lastly. but none of the above symptoms are to be depended upon alone — the presence of the stone must be manifest to the ear and fingers of the Surgeon by means of the sound. — A solid piece of iron like a catheter, but not so curved, and with a polished handle, this should be introduced into the

bladder – the patient lying upon his back, the pelvis raised on a pillow, and the bladder not quite full, it should be cautiously moved about to examine every part of the bladder, and if there is a stone of any size present it will probably be heard to strike or grate upon it, but if it is not discovered in this position, the patient should be made to raise himself to the sitting posture, and then proceed to manipulate in the same manner, and possibly the stone may be found by introducing the fore finger of the other hand (well oiled) into the rectum, but if not discovered in either of the foregoing ways, the Surgeon should introduce a metalic Catheter and the stone may perhaps be felt to strike or rub against it during the flow of the urine, –

Should the symptoms be well defin-ed the Surgeon should not be disconcerted by one or two unsuccessful examinations, On the other hand the rubbing of the sound upon, the bladder, the Os Coccygis, or upon gravel entangled in mucous, must not conclude too hastily that there is no stone existing.

The symptoms of stone vary in their severity. – 1 according to its size and roughness. – 2. according to the condition of the urine. – 3. according to the condition of the bladder, whether healthy or inflamed they may co-ist for a long time perhaps for a number of years. – In fact a little pain during micturition and bloody urine after riding may be the only inconveniences, but after a time the bladder suffers just as it does from any other irritation, – the urine deposits a slight cloud of mucus, the bladder becomes more

and more irritated and finally inflamed — the urine finally becomes alkaline and loaded with viscid mucous and consequently abounds with the triple phosphate and phosphate of lime. this state is often attended with rigours, succeeded by heat, and other symptoms of intermittent fever, and matter is sometimes voided with the urine, the mucous membrane of the bladder becomes ulcerated when a calculus has existed long. — the patient loses his health, his strength fails, and finally after years of protracted suffering sinks under the irritation — Sir Benjn. Brodie observes "that if the prostrate gland becomes enlarged from the sufferings from stone are often mitigated; because it is prevented from falling upon and closing the neck of the bladder." — Also Sir A. Cooper observes that "A person labouring under this complaint walks with excessive care, he does not raise his feet much from the ground, to prevent any shock of the body which would create any pain and occasion spasmodic action of the bladder, he also lies down with great caution, as the sudden change of posture might alter the position of the stone and produce irritation."

In the beginning of this disease, no change is observed in the appearance of the urine, which could aid your judgment, but after violent exercise of any kind particularly upon horseback, or in a carriage upon a rough road, the urine may become bloody. — Sir A. Cooper says that a person having stone in the bladder cannot ride far on horseback, without being compelled to dis-

-mount to void his urine, and is frequently obliged to quit a carriage for the same reason.

Source, Composition and Comparatin frequency.

The sources of vesical calculi are two, viz. 1. from the urine, 2. from the mucus of the blad-der; and calculi are exceedingly liable to form from the latter source if the prostrate is diseased, or if foreign bodies (such as a mass of fibrin or clot of blood, a piece of bougie or catheter), are introduced into the bladder so as to serve for a nucleus, sometimes a small stone of uric acid forms in the kidney, and descending by the ureter into the bladder, it there acquires an increase in size from the formation of a calculus deposite on it of a different nature, around the nucleus as a centre calculus matter is arranged in concentric rings, sometimes loosely aggregated, more dense hard and com-pact, the innermost layers are for the most part composed of Lithate of Ammonia, and in a great proportion of cases either of this substance, or of oxalate of Lime, often there is no material deposited but one or other of these compounds which therefore constitutes the entire mass of the calculus, occasionally the lithate and oxalate form alternate layers, it is seldom however that a calculus attains a considerable size with-out presenting the earthy phosphates as the chief constituents of its outer part.

It is an established fact and well known to the profession, that irritation from mechanical or

organic causes cannot long exist in the urinary organs without occasioning the developement of the phosphatic diathesis in the urine, it is also found that all calculi, whatsoever their original composition sooner or later proceed to grow by degrees, owing to the gradual deposition of the phosphates of lime, magnesia & ammonia on its surface, the last mentioned substance is sometimes beautifully crystalized, an appearance which is particularly observed in calculi that have attained a considerable size in the kidney. phosphate of Lime is not so abundant or frequent as the ammoniaco-magnesian phosphate: and it very rarely constitutes the sole ingredient of a calculus, where it constitutes the chief or sole ingredient, the kidneys are affected for the most part with irreparable organic disease. It is held by some that when the phosphatic diathesis of the urine has been once constituted, and phosphatic layers have been formed on a calculus, its constitution no longer undergoes any changes; but that its subsequent growth is phosphatic in composition, such is the general rule yet there are some exceptions: the varying composition of the successive rings of large calculi clearly shows that after the phosphates have for sometime been deposited, the diathesis of the urine may undergo a change, and the lithate of ammonia be formed for a considerable length of time

The Cystic oxide is rarely found in calculi, and when met with, it constitutes almost the entire concretion, which has a greyish colour, and uniform crystaline structure. In some rare cases the layers of stony matter have been observed to alternate with strata of a soft animal matter, like fibrin

or coagulated albumen; an extremely rare variety of vesical cal-culus consists only of lithate of soda; another very rare form of calculus, which has ~~not~~ been found in sedimentary depos-its is that called xanthic oxide from its yellowish-red colour. it has only been met with once, and is therefore of little interest.

In every case of this kind there is a con-siderable quantity of animal matter intermingled with the proper calculous material, the particles of which it unites and firmly binds together. The following observa-tions will exhibit more clearly the different species — the preceding deposites may as we have observed concrete into the stone, of which there are Eleven va-rieties: — viz. Lithic 2 — Phosphatic 3. — Oxalic 1. — and five others which are exceedingly rare.

I. The Lithic or uric acid calculi, are generally oval, fawn or mahogany coloured, smooth surface and composed of concentric laminæ, and con-sists principally of lithic acid — It may be dissolved by boiling in liquor potassæ — it burns away almost entirely before the blow-pipe, and if digested in Nitric acid and evaporated leaves a scarlet, residue (purpuric acid) which becomes purple by the addition of a little ammonia. — It is the prevailing species: but the surface sometimes occurs finely tuberculated. It frequently constitutes the nu-clei of other species.

II. Mulberry Calculus. this is of a dark brown, or dark red colour, of a harder texture than any of the other species, and its surface studded with

tubercles. — It is composed of oxalate of lime — It is soluble in nitric acid and if exposed to the blow-pipe the acid is burnt off, and quicklime is left, which if moistened, reddens turmeric paper. — this species includes several varieties which are remarkably smooth and pale coloured, resembling hempseed.

III. Phosphate of Lime, or bonearth calculi are rare — it is of a pale brown or grey colour, smooth and polished surface of regular laminated structure; the lamina easily separating into concentric crusts, — It is composed principally of phosphate of lime, — soluble in nitric or muriatic acids, & precipitated by liquor ammonia, infusible except at a very intense heat.

IV. Triple Phosphate, It generally of a brilliant white colour, of uneven surface, studded with shining crystals, less compact than the preceding species, — between its lamina small cells occur filled with sparkling particles, — It is principally composed of ammonia and magnesia, generally mixed with phosphate of lime, soluble in acetic and muriatic acids, evolves ammonia when treated with liquor potassa, — this species attains a larger size than any of the other species.

V. Fusible Calculi. This is a very friable concretion, of a greyish white colour, resembling chalk in appearance and texture, soluble in dilute nitric & muriatic acids, but not in liquor ammonia. the nucleus is

generally lithic acid. – It is formed of the phosphate & the tri-ple phosphate mixed, It forms a white friable mass and is very fusible.

VI. The cystic oxide Calculus It resembles a little the triple phosphate or more ex-actly the magnesian limestone, it is somewhat tough when cut, and has a somewhat greasy lustre, its usual colour is pale brown bordering on straw yellow. its texture is irregularly crystalline, before the blowpipe it emits a peculiar and fœtid odour, it is soluble in a solution of the neutral carbonates of soda or potash, also in those of the caustic alkalies: and most of the acids. – It is decomposed by heat into carbonate of ammonia & oil leaving a minute residuum of phosphate of lime, it is a very rare species,

VII. Alternating Calculi, The surface of this calculus is unusually white like chalk, & friable or semi-crystalline, according as the exterior coat is the calcareous or ammonia-magnesian phosphate, they are frequently of a large size, and contain a nucleus of lithic acid, sometimes the two phosphates form alternate layers round the nucleus, the above are the most common alternating calculi; next are those of the oxalate of lime with phosphates, then oxa-late of lime with lithic acid, and those in which the three substances alternate, its section exhibits different con-centric lamina.

VIII. The Compound Calculus

This consists of a mixture of lithic acid with the phosphates in variable proportions, and is consequently variable in its appearance, sometimes the alternating layers are so thin as to be undistinguishable by the eye, when their nature can be determined only by chemical analysis. It is of no characteristic form.

Besides the above calculi are sometimes composed of lithate of soda, carbonate of lime, the fibrin of blood, and silicia all of which are exceedingly rare.

Medical Treatment.

With respect to the medical treatment of Lithiasis. Sir A. Cooper does not believe in the power of Chemistry to dissolve a stone in the bladder, if it has acquired any considerable size, the medicines given for this purpose become so much changed in their passage through the circulating and secreting systems, that their chemical influence is in a great degree rendered nugatory, they may possibly render the surface of the stone ~~less~~ soft & less irritating; but they do not prevent a calculus secretion. since stone cannot be dissolved in the bladder, yet the irritation caused by their rough surfaces upon the mucous coat of the bladder may be considerably diminished by strict attention to the following rules & regimen

For the Lithic acid diathesis, the diet should be plain & temperate consisting of meat once a day & well dressed vegatables, but moderation in quantity is quite as important as attention to quality. fermented liquors should be taken very sparingly

a little good sherry is the best, all acescent substances such as malt liquors, pastry and sweet wines, should be avoided, but ripe fruits such as strawberries are rather beneficial; the natural acids they contain not being injurious like vinegar 2dly. the action of the skin must be promoted by plenty of exercise, & by baths of hot water, hot air, or the vapour of sulphur if there is any difficulty of procuring perspiration or if the skin is diseased, For it must be recollected that the skin naturally eliminates a considerable quantity of acid 3dly. the liver and bowels should be freely acted upon by mercurials and purgatives to which colchicum may be added if there exists a tendency to gout. 4ly. the superabundance of acid in the system must be counteracted by alkalies, some prefer potass, some soda, and others magnesia, about two hours after a meal, is the best time for taking them, the objection to soda is that it forms an insoluble salt, with the lithic acid, And to magnesia, that it is apt to concrete into hardened masses in the intestines — So that the bicarbonate of potass, in doses of 15 or 20 grs. appears the most usefull — the liquor potassa although valuable as an alterative in skin disease, does not appear to be so efficacious in these cases as the carbonate. — Lastly, benefit is generally obtained from diuretics. Dr Prout, recommends 5 grs of Nit. Potass. to be added to each dose of alkali: — & soda water, and alkalis combined with vegatable acids, such as Soda & Seidlitz powders, are highly useful, for the vegatable acid is digested in the stomach & the alkali passes to the kidneys.

Oxalic diathesis, all that can be said upon this subject is, that the patient must be kept in as good a state of health as possible by the strictest attention to diet and regimen, the diet must consist of plain animal food with bread or other farinaceous matters, avoiding sugar and all acescent substances and hard water the skin should be kept in order by flannel clothing exercise and occasional baths. If there exist acidity or flatulence they must be corrected by small doses of alkalies with ammonia, may be given after meals, whilst it is desirable to fortify the stomach with bitters or small doses of mineral acids an hour or two before meals.

Phosphatic diathesis, The diet should be generous but plain, and should ~~be~~ include sound malt ~~-ters~~ liquor, or port or sherry. soda water is injurious if it contains soda, which as a mere article of luxury ~~of~~ ought not to do. But simple water impregnated with carbonic acid is wholesome and very grateful to the stomach. the importance of good air and exercise need scarcely be hinted at, the other remidies are tonics, acids, and opium. bark, quinine or steel may be given in combination with the mineral acids and with opium, which in confirmed cases of phosphatic deposits in adults agrees remarkably well; allaying pain and nervous irritation, without impairing the appetite or inducing costiveness.

If the mucous coat of the bladder is diseased resourse must be had to remedies former-

-ly spoken of. All diuretics are as a general rule injuri-
-ous, and mercury and the alkalies are unadvisable
except perhaps in small occasional doses when requir-
-ed by the state of the stomach. It must be observed in conclusion
that although phosphatic deposites are attended with
an alkalescent state of the urine and although they
are as a general rule to be treated by acids, still that aces-
-cent substances, such as sugar, pastry, hard beer or
cider, & especially the thin acid French wines which
are sometimes recommended, are highly injurious.—
Prof. N.R. Smith states, that he has had ample oppor-
-tunities of observing the urine loaded with triple phos-
-phate, and highly ammoniacal, when the stomach has
abounded in acidity, the simple fact being that when
the health is disordered by any means whatever wheth
-er acidity in the stomach or not, the phosphates will be
deposited if the diathesis exists, — On this account
small doses of alkalies may occasionally be given in
these cases, with the greatest benefit after meals, if the
stomach is disordered; whilst the tonics and acids
may be given an hour or two before meals.

Surgical Treatment.

The indications are, first, to get rid of the diseased state of the urine, 2nd, to allay pain & irritation, and 3rd, to remove the stone, the first & second are to be accomplished by the means mention-ed under the head of Medical Treatment — The 3rd may be executed in four ways, viz. by extraction of the stone through the urethra, — solution of it by injections — lithotrity, — lithotomy.

First, Extraction by the Urethra, when a stone is known to have recently escaped from the ureter into the bladder, the first point is to remove all irritability of the organ by sedatives, and by restoring the proper condition of the urine, so that there may be no spasm to obstruct its passage into the urethra the patient should also drink plentifully so that the bladder may be quite filled, Then, when he is going to make water he should be instructed to lie upon his face, & to grasp the penis so that the urethra may become distended with urine, and thus very probably, the sudden gush that will come when he relinquishes his grasp of the penis will bring the stone with it, or perhaps the urethra may be dilated by passing bougies.

But if this plan should not succeed after a few days, Weiss's urethral forceps should be tried, the patient should be placed upon his back

with his pelvis raised, a catheter is to be introduced to draw off the urine, & five or six ounces of water are afterwards to be injected, next the forceps, being introduced, is to be made to feel for the stone, and when found the blades are to be opened very cautiously over it and made to seize it, an index upon the handle of the forceps will now shew the size of the stone, if small it may be extracted at once, — if large it must be left where it is, if of a doubtful size, it may perhaps be brought into the membranous portion of the urethra, whence it can be extracted by incision.

Second. Solution by Injections

Sir Benjn. Brodie, has satisfactorily shown that phosphatic calculi may sometimes be dissolved altogether, and sometimes be so disintegrated or reduced in size that they may escape through the urethra by means of injections of very dilute nitric acid, passed through a double gold Catheter — at the same time these injections diminish the secretion of mucus, which is the source of the phosphate of lime There is no doubt also but that lithic calculi may be dissolved by means of mineral waters holding large quantities of carbonic acid in solution, and that they have been spontaneously disintegrated by the urine when it has been restored to its healthy condition. — but the chance of such an event is so small ~~that~~ and the process so tedious, that it cannot be offered to the patient at present as even probable, alkaline injections into the bladder are inexpedient.

Third. Lithotrity is an operation for reducing stones in the bladder into fragments of so small a size that they may be readily expelled through the urethra, – This can be readily done by an instrument invented by Weiss. of London, called the screw Lithotrite, The operation is performed as follows, the patient is placed upon a couch with his pelvis well raised and his shoulders well supported. – The bladder is then emptied, and five or six ounces of tepid water injected with a proper catheter & syringe The instrument previously warmed and oiled, is introduced and placed upon the stone, its blades are opened and made to grasp it between them. – the handle is moved from side to side, to ascertain that no part of the bladder is entangled, and then it is depressed so as to lift the stone towards the neck of the bladder. The screw is then slowly & cautiously turned backwards & forwards till the stone is crushed by its repeated impulses. the next thing is to seize & comminute the fragments either with the same instrument, or with one that has not the aperture in the anterior blade. Sometimes they may be removed with sundry scoops, but whether this can be done at one sitting or not at many, must depend upon the size of the stone, and the degree of inconvenience suffered by the patient.

Again another source of danger to the patient is the substitution of many irregular fragments for one smooth stone, and the number of times the operation must be repeated, The preparatory treatment consists in the use of

measures for removing the diseased condition of the urine and any irritability of the bladder. — In the after treatment, diluents should be employed to increase the secretion urine, and injections of warm water to accelerate the passage of the fragments, also hip-baths, opiates, & leeches, or cupping on the perinaum, for the relief of pain or inflamation. — Sometimes the fragments stick in the urethra, & require to be removed by incission in the perinaum, and sometimes it is requisite, after all, to extract them from the bladder by a regular lithotomy operation.

The results from this operation even in the hands of scientific Surgeons have been far from favourable, of 12 cases narrated by Mr Key - three were cured by it - in three it was either inapplicable, or unavailing and lithotomy was resorted to, and the remaining six perished. One with abscess in the prostrate soon after the operation, - and four with protracted sufferings from irritation of the bladder by the fragments which were retained - and one with disease of the bladder brought on or aggravated by the operation. Mr. W. Fergusson gave the results of eighteen cases, of which six were cured, seven were not cured (and four of these underwent lithotomy afterwards) and five died.

Fourth. Lithotomy. — Is an operation by which a stone is removed from the bladder. It may be performed in either of the following methods. The lateral, the bilateral, the recto-vesical, and the high operation. But my attention shall be confined

altogether to the first mentioned, viz. The lateral operation It is so named from the prostrate gland & the neck of the bladder being cut laterally, was probably invented by Peter Franco. It was introduced into France by Frère Jacques de Beaulieu, he performed it with rude instruments invented by himself, & improved by the suggestions of some of the Parisian Surgeons, In England it received its earliest and most important improvements from the celebrated Cheseldon. It is the method practised at the present day, according to the different modes of procedure – It is advisable that the bowels should be cleared on the morning of the operation, with a simple enema, the bladder should be moderately full and if the patient has recently emptied it, a few ounces of water may be injected. It is also desirable that the existance of the stone should be clearly demonstrated with the sound or staff. immediately before the operation

Then the proceedings may commence by introducing the staff. – a solid steel rod like a sound with a deep groove, either on its convex border, or, as some Surgeons prefer it on its left side. It should be as large as can be conveniently introduced, the next point is to fix the patient in as convenient a posture as possible, he should be placed on his back upon a table about two and a half feet high, with his shoulders resting on the lap of an assistant, who sits astride beside him Then in order to expose the perinæum thoroughly, he must be made to raise & separate his thighs, & to grasp the outside of each foot, with the hand of the same side, then the hand and foot are to be firmly bound together by a broad garter or bandage

— meanwhile, if not done before, the perinæum should be shaved,

Every thing being now prepared — an assistant on each side holding the thighs firmly asunder, another being at hand to give the Surgeon his instruments — and another stationed on the left side holding the staff perpendicularly, & well hooked against the Symphasis pubis, — in which position he is to hold steadily from first to last: — The Surgeon commences by passing his knife to the depth of an inch (through the integuments, cellular tissue of the perinæum, membranous portion of the urethra, transversus perinæi muscle, bulbo cavernosus, some fibres of the levator ani, the prostrate and neck of the blattder, are successively divided,) on the left side of the raphe, about an inch before the anus, & cut downwards & outwards to the bottom of the perinæum, midway between the anus and tuberosity of the ischium. "The fore-finger of the left hand says Mr Liston" is then placed in the bottom of the wound about its middle, & directed upwards & forwards: — any fibres of the transverse muscle, or of the levator of the anus, that offers resistance, are to be divided by the knife, its edge turned downwards. — the finger passes readily through the loose cellular tissue, but is resisted by the deep facia, immediately anterior to which, the groove of the staff can be felt not thickly covered, the point of the instrument is slipped along the nail of the finger, & guided by it, is entered, the back still directed upwards, into the groove at this point, The finger all along is placed so as to depress & protect as much as possible the coats of the rectum, & the same knife pushed forwards, is made to divide the deep facia, the muscular fibres within its layers, a very small portion — not more than two lines, of the urethra anterior to the

apex of the prostrate, together with the prostratic portion of the canal and the gland to a limited extent, — The direction of this incission through the prostrate should be downwards & outwards, corresponding of course to that of the whole wound, and its extent should not be greater than seven lines, the next thing is to withdraw the knife, & pass the finger along the staff into the bladder, to ascertain the position & size of the stone, If the patient is young and thin, the forceps may now be at once introduced: but if he is an adult & especially if the prostrate is large & rigid, it will be proper to use the blunt gorget previously, in order to dilate the aperture in the gland, The surgeon takes it in his right hand, with the concave surface uppermost, places its beak in the groove of the staff, and pushes it gently into the bladder, then the staff being removed, a forceps suited to the size of the stone, is to be very gently introduced into the bladder, If the gorget was used it may be passed along its concave surface before it is withdrawn, It must be introduced closed & brought into contact with the stone, then the blades are to be opened over it and made to grasp it, if the stone is seized awkwardly, it is relinquished and seized again, then it is extracted by slow cautious undulating movements,

The general maxims to be borne in mind during the operation are, first to make a free external incission, & to bring it low enough down, so that the urine escape freely without infiltrating the cellular tissue. 2nd. not to cut to high up, or to open the urethra too much in front, for fear of wounding the bulb or its artery 3rd, not to wound the rectum, or pudic artery by carrying the incissions too much inwards or outwards. 4th. and above all not to cut completely through the prostrate, beyond its fibrous envelope, otherwise the urine will find a ready passage into the loose cellular tissue of the pelvis,

and the patient will almost surely die.

Many Surgeons direct the assistant to hold the staff so that it may project in the perinæum, & incline a little to the left side of it. & when they have opened the urethra, & are about to incise the neck of the bladder, they grasp its handle in their own left hand, & bring it down horizontally. — Again there are great diversities in the manner of cutting into the bladder, many use a beaked knife, & not a few use the cutting gorget, the beak of which being put into the groove of the staff, held horizontally in the Operators left hand, it is pushed cautiously on, & made to cut its way into the bladder, if this instrument is used the greatest caution must be used to keep it in contact with the groove of the staff, & not to let it slip between the bladder & the rectum, an accident which has been the death of a great patients from this operation,

After Treatment, — When every fragment of stone has been removed, and the bladder has been syringed with warm water, the patient should be put to bed, he should lie upon his back with his shoulders elevated, a napkin should be applied to the perinæum to soak up the urine, & the bed to be protected by oil cloth, It is a good plan to introduce a large gum elastic ~~catheter~~ canula, Prof. Smith prefers & recommends a silver one, through the wound into the bladder for it to flow through. — If not the Surgeon should introduce his finger after a few hours to clear the wound of coagula. — pain must be allayed by anodynes, — the bowels must be kept open without purging, the wound be kept perfectly clean, & then in favourable cases the urine begins to flow through its natural channel, in 8 or 9. days seldom short of seven, and the wound heals completely in about four or five weeks,

This Operation is sometimes complicated with, first, severe hemorrhage by a wound of the pudic or bulbous arteries.– If the bleeding orifice cannot be secured, it must be compressed as long as may be necessary with the finger,– A general venous or arterial oozing must be checked by filling the wound firmly with lint or sponge, the tube being then indespensible. 2nd, Tenderness of the belly & other inflamatory symptoms must be combated with leeches, fomentations, & if necessary by venesection,– 3rd. Chronic inflamation of the bladder, with continued secretion of phosphates must be treated with the remedies previously mentioned,– 4th, Sloughing of the cellular tissue from urinous infiltration, a frequent result of a hasty operation, & of too freely incising the neck of the bladder, is indicated by the heat of the Skin and sleepiness, followed by a rapid jerking intermittent pulse,– hiccup – the belly tympanitic, the countenance anxious– and the other signs of irritative or typhoid fever,–

To be treated with wine, bark or ammonia, and by laying the wound into the rectum so that the urine may escape.

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An
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Pneumonitis
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To the
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By
C. W. Moore
Virginia

Pneumonia

Amongst the diseases that are justly to be remembered for the suffering they have entailed on the human family & the early graves they have filled few stands more prominent than Pneumonia
A disease the worth of a thourough knowledge of which can only be appreciated by taking into consideration the nature of the organ which it affects, its extreme vitality & the great function which it performs in the animal economy

Pneumonia may be defined to be an inflamation of the parenchyma or substance of the lungs, and not unfrequently involving the bronchial tubes especialy its minute ramifications in to the vesicles of the lungs.

The symptoms of Pneumonia are local or general: those furnished by the lungs, those by other organs sympathetically or secondarily disordered. Under the first heads we include cough expectoration, Dyspnoea, pain & the signs given by percussion and auscultation. Under the seconds a frequent rather full and hard pulse, a slight or even severe chill, hurried respiration, disorder of the digestive functions manifested by anorexia and a white and somewhat loaded tongue, dry skin with pungent heat and deep

red urine depositing a lateritious sedament.
We needs not expect to finds all of the above enumerateds symptoms present in every case or in scarcely any one: On the contrary we may meet with cases of Pneumonicy in which a majority of them are absent and stile the disease may have a tendency to go on to a fatal Termination unless checked by the timely application of efficient remedies. Let us take cough for instance (to say nothing of those symptoms that are much more frequently absent) and we shale see that their are well markeds cases of Pneumonia on records in which it was entirely absent or others in which it was so verry slight as scarcely to attract attention. Others I might cite but this is sufficient to show how liable the physician is to err who never calls a disease Pneumonia unless all of the symptoms are present that are generally enumerated as occasionally or frequently occuring during the course of the disease

Stages — as to the arrangement of the stages in Pneumonia authors are not agreeds some divides it in to five while others divides it only to threes and as I am aware that the student and practitioner is more perplexeds than benefiteds by dividing diseases into so many stages that it is impossible to keep from confoundeing them I am disposeds

to addopt the lat[illegible] as much too for simplicity
s convenience. The lung in the first stages is
a state of engorgement. in the seconds in that of
ead hepatization: and in the thirds of gray hepatization
we ask now how shall we ascertain whether a patient
be in the first the seconds or thirds stages? I say
by those symptoms that are peculiar to each which
I shall now endeavour to point out

In the first stage we examine the expectoration
and we finds the sputa of a rusty viscid appearance
and very tenacious in consistence becomeing more
and more so as the disease advances until it becom
nes to adhere so firmly to the vessel that it may
be turned up side down without its being thrown
out. We then apply our ear to the chest and we
hear a peculiar abnormal sound during the act
of inspiration which has received the names of
crepitant rahl or ronchus and has been compared
to the rubbing of a lock of hair between the finger
and the thumb or to the bursting of bubbles in soap
suds. Different causes have been assigned to the
production of this sounds. M Hadral attributed it
to the passage of air through the bronchial tubes
and vesicles while they are effused with serum
Dr Williams on the other hand points out the
narrowing of the caliber of the tubes by the
enlarged condition of the vessels that anastomose

between them and then gives it as his opinion that it is the sounds of the bubling of the air forcing itself through viscid mucous to gain admission in to the vesicles. And Dr Roby in his lectures upon Pneumonia mentioned an other theory that had been advanced which attributed it to the seperation of the walls of the vesicles (during the act of inspiration) which had been made to cohere slightly by viscid mucous contained in them. Which of these theories is right I do not know nor do I think it a matter of any importance in a practical point of view as we know enough of this sounds to enable us by the aid of other symptoms to decide with tolerable accuracy as to the condition of the lung at the time it occurs. This crepitant rale varies in different cases, in some it so slight as scarcely to be recognised while in others it so great as to entirely conceal the respiratory murmur. We examine now the sounds elicited by percussion and these we shall finds differ very little from the normal sounds: this variation is a slight dulness usually becoming more so as the disease advances

Haveing now noticed briefly the symptoms that characterise the first stage we will now pass on to those of the seconds and these we shall consider as negative and positive: by the

former we mean the absence of those symptoms which may be said to be peculiar to the first stage: by the latter those that are present. We will consider them seperately. Negative Symptoms. You apply your ear to the patients chest and you do not hear the crepitant rahle But you are not from this alone to decide that the disease has passed into the seconds stages for the patient may be recovering and the absence of this sound the consequence. Now here is a sound that has disappeared from one of two directly opposite causes: you ask how are we to decide which it is? listen for the respiratory murmur if it is present you may be certain that the disease is terminating in recovery but if it is absent you may be just as certain that the disease has passed into the second stage You examine the sputa and it has lost in a great degree its rusty viscid appearance. It should always be borne in mind that these symptoms are only of much service to the practitioner who has watched the disease in its progress or has its history from some one else: it is not so with the positive symptoms which we will now enumerate. I have said that the crepitant rahle and the respiratory murmur

have both disappeared: this has been caused by a deposition of lymph into the minute tubes and cells of the lungs and hence instead of the respiration with its prolonged murmur their is only a short whiffing sounds as Dr Williams calls it often ending in a click this bronchial whiffing does not occur in every case and the cases in which it does occur are those in which considerable tubes are involved in hepatization. It has been designated by the term tubular from its resemblance to the sound produced by blowing in a tube and is a variety of bronchial respiration the voice is considerably modified in its passage through the solidified lung to the walls of the chest as may be ascertained by applying the hand over the region of the diseased lung and the ~~voice~~ cough; also both of which are evidently produced by the lungs becoming more solid than natural and thereby being a better conductor of sounds. The vocal resonance of the tubes is transmitted to the parieties by the lung as a vibration and may be distinctly felt by the hands. If we examine the healthy side instead of hearing the natural sounds the respiratory is considerably increased from the increased action that it has to perform which

while the other side does not assist in arterialising the blood.

Thus far we are generally able to trace the morbid changes that take place during the progress of the disease with considerable accuracy but it sometimes happens that different parts of the lung are in different conditions at the same time thus we ~~we~~ may have one part of the lung in the first stage an other in the seconds and still an other in the third under which circumstances we are not able to trace it with the same ease.

We come now to the thirds stages and here unfortunately we have no symptoms that will enable us to recognise it from the second stage with certainty. I have said that the lung in this stage is in a state of grey hepatization: this consists according to Dr Bell in the conversion of the semisolid particles of lymph or blood which constitutes the seads hepatization into an opaque light yellowish friable matter and finally into pus. Here we generally have a humeulent or submucous rattle depending as I suppose on an accumulation of mucous into the bronchial tubes, a flat sound on percussion and a dirty brownish coloured sputa. These symptoms though they do not enable us to say

positively that the disease is in the third stage yet they should always excite our suspicions as to the probability of it

Locality — why this disease should occur more frequently in one portion of the lung than an other is as yet one of the hidden mysteries of nature and remains to be explained by future investigation but the fact of the assertion has been too clearly established now to admit of the least contradiction From a large number of cases Louis furnishes us with the following verry interesting facts- first that of the lungs the right lung is more frequently the seat of the disease than the left. secondly that of the lobes the lower lobe is most frequently affected the upper one next and the middle one lest frequent than any or it may occur in both lungs and all the lobes simultaneously

Causes — sudden vicissitudes in the weather exposure to colds, leaveing a warm room and going into a cold or damp atmosphere while in a state of perspiration, violent exercise of the lungs as in singing or hallowing and the exhalation of deleterious gases have all had their share in producing Pneumonia. But that these causes always produce Pneumonia when they are

present no one I imagine would assert. It appears to require in addition to these causes either a favorable condition of the system for the reception of disease or a peculiarity in the atmosphere well calculated to produce disease.

Diagnosis – Before mentioning the diseases with which Pneumonia might be confounded it may not be a miss to mention that some writers have considered the peculiar rusty viscid appearance of the sputa, the crepitant rale and the shining pungent condition of the skin sufficiently characteristic of Pneumonia to distinguish it from all other diseases. of this I may simply say that however good it might holds in the practice of those who have had much experience I am fully persuaded that it would not be a sufficient guide for the young and inexperienced and hence he needs other symptoms to aids him. The diseases for which Pneumonia might be mistaken are Bronchitis Pleuritis & Phthisis. From Bronchitis we distinguish it from the mode of the attack the appearance of the sputa that is expectorated and the physical signs. First the mode of the attack. Bronchitis is ushered in by a cough a constriction of the Larynx

wheezing in the respiration and a tenderness
on pressure of the Trachea. While Pneumonia in the commence
ment may have some of the symptoms of a Coryza
yet there is no constriction of the Larynx no wheezing
respiration nor tenderness on pressing the trachea
the sputa is essentially different in the two diseases
in Bronchitis instead of the rusty viscid sputa
we have a frothy mucous. Of the physical signs upon
which we most rely is the absence of the Crepitant
rale in Bronchitis and the presence of the sibilant
rattles and a clearer sounds on percussion from the
lungs not becoming impervious to air as early
as in Pneumonia. From Pleurisy we draw our
diagnosis from the presence of the crepitant
rale & the fremitus from the vocal resonance of the
tubes and by the absence of aegophany and the
friction sounds and by the sounds on percussion
being the same whatever may be the posture of
the patient. From Phthisis we distinguish it by the
history of the case. Phisis is generally slow and insid
ious in its progress occuring in persons of the cha
hectic or tuberous diathesis or hereditarily disposed. Pneumonia on the
contrary is rapid in its progress and occurs
in patients in the vigour of health as well as
in those of a weekly constitution and where
there is no hereditary predisposition

Prognosis

From the proportionate mortality of the cases that have been recorded, the prognosis is always a serious one. Even when the symptoms are apparently the most favourable we should not be precipitate in giving a favourable prognosis for it frequently happens under these circumstances that things undergo a very sudden change and death is the consequence. Our opinions will be modified by several circumstances such as the age and constitution of the patient, the stages of the disease when we are called in and the extent to which the lung is affected. A frequent pulse and hurried respiration is to be considered unfavourable. The expectoration will guide us considerably as the viscidity and rusty tinge of the sputa are said to be in exact proportion to the inflamation present and their increase and diminution or tenacity and colour are the common attendants on resolution. Dirty or watery brown sputa and those containing pus are symptoms indicative of great danger and more especially if they have a gangrenous odour. A dry harsh skin is an usual attendant of bad cases while a soft and moderately perspiring skin is more favourable. The nature of the urine has considerable

bearing on our prognosis. If it has a copious deposit it is favourable and it has been a maxim ever since the days of Hippocrates that if the urine becomes clear before the fourth day after having been turbid that the disease will almost assuredly terminate fatal. Delirium or a comatose condition are both considered equally dangerous. Taking now a summary of the symptoms we may say that if Pneumonia occurs in a patient with a previously bad constitution either from old age, intemperance or disease and is attended with a quick pulse, hurried respiration. hot skin, the urine becoming clear and delirium or comas coming on at an early period that the prognosis is an extremely dangerous one On the contrary if the patient has a good constitution the pulse & respiration is not much quicker than natural, the skin moist and slightly perspiring ~~and~~ the urine mixed with a lateritious substance and the physical signs indicate that but a small portion of the lung is in involved, the prognosis is favourable so far as we can judge by the existing symptoms

Treatment

The indications in treating this disease vary with the different stages. Thus in the first stage our object is to subdue inflamation and remove

congestion and thereby prevent the lung from passing into hepatization. In the second to remove any injury which the lung may have received from the previously existing inflamation and congestion and bring about restoration. In the third to sustain the vital powers while nature contends with the disease assisted by those remedies which I shall presently point out that these are always the indications in the different stages I would not pretend to assert for though I have stated that to sustain the vital powers is the indication in the third stage yet it may become necessary in the seconds or even in the first stage

As to the fulfilment of the first indication there is by no means an unanimity of opinion amongst writers as to the remedies that shall be employed some contend strongly for bloodletting and others for Tartaremetic as the great remedy in the early stages of this deases but I believe that the advocates of each in their zeal for one have forgotten the merits of the others and seem to be blind to the now well established fact that they may be simultaneously employed with the happiest effects from a knowledge of this fact were I called to a patient in the first or even the seconds stages of Pneumonia with a full fulle

nd other symptoms indicating active inflamation
I should endeavour to make a decided impression
n the disease by drawing blood copiously from the
rm and administering at the same time tartar
metic commencing with a fourth or half of a
rain every two hours and gradually increase the
ose until the patient takes twelve grains or
more in the course of twenty four hours If
fter haveing employed the first bloodletting I had
ot obtained the desired effect and the patient
d borne it well I would not hesitate to resort
it again and again until the disease began
give way to it using at the same time some
e of the saline cathartics to keep the patients
wels open and warm pediluvium and sinapisms
the lower extremeties. If in despite of this
eatment the disease still had a tendency to
o on unchecked the saline cathartic should be
iscontinued and endeavour to put the system
nder the influence of Mercury as speedily as
ossible for which purpose calomel may be
iven internally in combination with Opium
nd the Unguentum Hydrargiri rubed in the axilla
nd other parts of the external surface
Haveing accomplished all we can by general
loodletting we may then resort to local

depletion by cupping & leeching. It sometimes happens that the patient cannot tolerate Tartar Emetic in which case its use should be discontinued and the Mercurial treatment instituted. If after we have done all this the disease is not subdued and the vital powers are sinking the patient should be given wine whey or water and brandy; here I would say we might resort to counter irritation by blisters ~~of~~ over the region of the disease. The diet which in the commencement of the disease should be of the blandest nature may now be more nourishing but of easy digestion During recovery the patient should guard against excess in diet avoiding all indigestable food. his bowels should be kept gently open and a mild expectorant occasionally administered. This I believe to be the treatment most applicable to a case of uncomplicated Pneumonia

S. W. Mapp

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An

Inaugural Dissertation

on

Intermittent Fever

respectfully submitted

to the

Examination

of the

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for the

Degree of Doctor of Medicine.

by William E. Etlery.

Maryland.

Before entering upon the subject of that form of fever denominated intermittent, I will make a brief allusion to those doctrines of fever in general, which have most occupied the attention of the Medical profession.

This subject has agitated the mind of the profession for centuries, and has called forth the most diligent investigation and inquiries of some of the brightest luminaries of the medical world. Theories have risen to be supplanted by others more specious and ingenious, which in their turn have been doomed to a similar fate; all ending in little else than vague speculation and hypothesis.

Although many of the doctrines promulgated by our forefathers may appear to us extremely absurd and ridiculous, the result of their labours have not been altogether futile and nugatory for it cannot be doubted that we have gleaned many valuable and important facts from the wrecks of their ruined and dilapidated systems. And although we have as yet arrived at nothing certain and conclusive as to the true pathology of fever, there can be no doubt that its nature and treatment are better understood.

One of the oldest and most important notions concerning the character of fever is that of the "Humoralists." They maintained that fever was produced by the concoction of certain peccant and deleterious humors in the system,

and relieved by desquamation, or their elimination through the emunctories of the skin, intestinal canal &c.

In order to relieve the system of these imaginary enemies they had recourse to various stimulating diaphoretic remedies, the effect of which may readily be conceived. Even at the present day there are relics of the humoral pathology among the vulgar, who frequently drench themselves with hot and stimulating diaphoretic teas in order (as they say) "to purify the blood".

Hoffman has the honor of having first turned the attention of physicians to the influence of the nervous system in the production of fever. According to him fever is caused by some morbid affection of the nervous system, producing spasm of the nervous extremities thereby forming a barrier to the egress of the morbid humours from the system: and the effort of nature to overcome this constriction in the extreme vessels give rise to those phenomena which we see in fevers. Hoffman came to his conclusions respecting the agency of the nervous system in fevers by a hint suggested by Stahl, who affirmed that the vis medicatrix naturæ, or the power possessed by the human system of resisting and repairing injuries is "an intelligent governing principle or the rational soul, which not only originally formed the body but is the sole cause of all its motions, in the constant exercise of which life consists, and that disease is a salutary effort of this presiding soul to avert the destruction of the body.

This doctrine was as pernicious in its tendency as it was

fanciful and absurd, leading to a very feeble and inert practice. Hoffman and his followers were called Solidists in contradistinction to those who located disease exclusively in the humours. Cullen rejected humoralism entirely, and maintained that the remote febrific acts as a sedative primarily upon the brain and nervous system, causing a collapse and diminution of their energy: this is the first link in the chain of morbid action. Spasm of the capillaries, or extreme vessels follows this as a consequence, which causes the phenomena witnessed in the cold stage, in its attempt to overcome the constriction in the extreme vessels, which when successful is immediately followed by a copious perspiration or other critical discharge.

About the time that the Cullenian doctrine was at the acme of its glory Doc! Brown introduced his system of Medicine to the profession. He arranged all diseases under two heads, viz Sthenic and Asthenic. According to him the human system is endowed with a principle which he termed excitability, and external agents are continually acting upon this principle as stimuli. When this principle is acted upon in a moderate degree and in a natural manner by these external agents we have that condition of the system denominated health: but when it is acted upon in an excessive or inordinate degree the consequence is an accumulation of excitability, or a

sthenic grade of fever which is ~~naturally~~ relieved by antiphlogistic means. And on the contrary when this principle is not sufficiently stimulated by external agents we have a deficiency of excitability, or an Asthenic grade of fever, which is restored by medicinal stimulants.

It appears to have been the object of Dr. Brown to reduce the science of medicine to the greatest possible simplicity, all diseases being reduced by him to one and the same cause, which acting in two different degrees produces excalted or diminished excitability.

The treatment also is as simple as the doctrine, as a person need only to sally forth with a lancet in one hand and a bottle of wine in the other in order to correct these two opposite conditions of the system. It is scarcely necessary to state that this crude mass of absurdities has met with its deserved fate.

The profession is divided into those who consider fever as an essential or primary disease, and those who consider it as non-essential or secondary. The greater and more respectable part of the profession are in favour of the former doctrine modified. Their general belief is that the remote cause of fever miasm, cold or whatever it may be, acts primarily and deleteriously upon the nervous system, which is followed sooner or later by a deranged condition of the capillary system of vessels: thence organ after organ is

involved according to the concatenation of morbid sympathies until the whole system is implicated in a general disease.

Whatever may be said concerning the importance of other febrile phenomena, can leave no doubt as to the prominent derangement of the nervous and vascular systems.

That the nervous system receives the first shock may reasonably be inferred from the feeling and appearance of a patient between the reception of the morbific impression and the accession of the fever. She complains of langour, lassitude, debility and indisposition to mental and corporeal exertion, and the countenance frequently exhibits an idiotic appearance.

Those who contend that fever is non-essential or secondary, refer the cause of febrile phenomena to some local irritation or inflamation.

Pouillaud locates this inflamation in the vascular system. Bretonneau and Louis refer the cause of typhus fever at least to inflamation of the solitary and conglomerate glands of the intestinal mucous membrane. Mullenbach of London contends that fever is produced by inflamation of the brain and its membranes; while Broussais as positively affirms that gastro enteritis is the essential cause of febrile phenomena. Broussais by his great professional zeal and ability has gained over many proselytes to his new theory, but in the language of the learned Eberle "like all the

preceding great doctrines in medicine it is destined perhaps to culminate for a while in the firmament of our science and to attract its host of worshippers: but assuredly sooner or later it must sink again and add another to the long list of once highly favoured but now exploded and neglected doctrines."

Most of the doctrines of non-essentialism are entitled to much respect and consideration inasmuch as they have been founded principally upon autopsic phenomena, and have been promulgated by men of acknowledged talents and ability: but that they have overlooked many important facts and have been too hasty in their conclusions, cannot I think be denied by any one of unbiased judgement.

The animal economy is always exposed to a multitude of agents and influences which are continually at war with its well being: and those organs or functions most exposed to an unfriendly agent must become weakened or suffer more or less disturbance or organic weakness, though they may be so slight as not to be perceptible. The increased momentum given to the blood by the tumultous action of the heart and arteries in fevers forces it into the capillary vessels of any organ or organs that may be in a weakened condition and causes inflamation.

Now it is very probable that inflamation produced in this manner upon certain organs are looked upon by non-essentialists as the cause and not the

effect of fevers: and they are confirmed in their opinions by frequently meeting with a pathological condition of the same organ.

I think that this may be accounted for by the fact that in different locations the animal economy is exposed to different kinds of deleterious impressions, which effect one organ especially: consequently, in fevers this organ being already debilitated will be more apt to take on diseased action than any other: cæteris paribus. Hence it does not seem improbable that Clutterbuck should frequently meet with inflamation of the brain and its appendages in such a place as London, where the brain of men is continually racked by the excitement of noise hurry and commercial pursuits.

And it is certainly not astonishing that Broussais should meet with gastro-enteritis when we take into consideration the habits and mode of living of the Parisians which of themselves are almost sufficient to give rise to this dreaded bugbear of the Broussaisans.

The treatment pursued by Broussais and his disciples is also eminently calculated to favour the production of gastro enteritis in fevers, cupping leaching and mucilaginous drinks being almost entirely relied on, and purgatives neglected. The consequence is by withholding purgatives the acid secretions poured into the intestinal canal during fever are suffered to remain and produce the very condition intended to be removed. —

With these remarks I will leave this subject and enter upon that of.

Intermittent fever.

Intermittent fever is characterized by paroxysms of fever regularly returning at a particular time on certain days, commencing with chills and terminating in copious perspirations and followed by a complete apyrexia.

Premonitory Stage. The period which intervenes between the impression made by the morbific agent and the accession of the disease is called the premonitory or forming stage, and the symptoms of deviation from a healthy condition of the system which occur during this period are called premonitory symptoms. The premonitory stage varies considerably in its duration, being longer or shorter according to the power of vital resistance, or the degree of concentration or force of the remote febrific cause. Some of the symptoms which usually occur during this period are yawning, stretching, langour, lassitude, and a general feeling of weariness: loss of appetite and flatulence: disturbed sleep and transient pains in the back and limbs. The bowels are very irregular and the faeces dark coloured and offensive.

Although we generally meet with some or most of these symptoms during the forming stage of intermittents they are by no means constant in their occurrence: on the contrary I have heard individuals express an unusual degree of good health a few

hours before the accession of a chill.

After these symptoms have continued for an indefinite length of time they terminate in the—

Cold Stage.— The first symptoms usually experienced in this stage are debility langour and long fits of stretching and yawning. The latter symptom I have known so severe as to produce dislocation of the inferior maxillary bone. The patient now feels occasional chilly sensations pervading the body, especially along the course of the spine and the anterior part of the chest.

Some writers mention thirst for warm drinks as a symptom in this stage of intermittents, but so far as my limited observations have extended I have noticed an almost indomitable desire for cold drinks: in fact I have frequently noticed a desire for cold water to be the very first symptom which warned the patient of the near approach of his paroxysm. The feet and extremities of the fingers are cold and the nails assume a blue cast. The patient complains of frontal, lumbar, and articular pains which continue to increase till in some cases they are very distressing.

The coldness now gradually extends from the extremities over the whole surface. The face is pale, the features shrink, the skin appears constricted and becomes rugose resembling that condition

denominated "goose skin". At length the coldness becomes intense the patient is seized with a tremulous agitation of the whole frame which in most cases is so violent as to resemble convulsions. These phenomena are technically called rigors. The respiration is hurried anxious and oppressed and attended with deep sighing and sometimes with a short dry cough. The pulse is small frequent, oppressed, and sometimes irregular.

When the cold stage is very severe it is sometimes attended with dangerous coma or convulsions especially among children. The chill having continued for an indefinite length of time, begins gradully to abate and goes on declining until the patient feels transient flushes of heat passing over the body which continue to increase pari passu with the declension of the chill until the hot stage is completely developed.

About the time that the cold is passing into the hot stage the patient is frequently annoyed with distressing nausea and bilious ejection from the stomach.

Hot stage. This stage is characterized by a hot and dry skin, flushed and turnid countenance, increased thirst, dryness of the mouth and fauces, or frequent full and firm pulse and general restlessness and uneasiness. The respiration is still hurried and anxious, but rather more free and not so much oppressed as in the preceding stage. The urine is scanty

and high coloured. The patient complains of pains in various parts of the body especially in the head, back and Extremities. Sometimes delirium occurs.

This stage varies considerably in its duration but is generally much longer than the preceding. After a longer or shorter period however it always terminates in a profuse perspiration, or the

Sweating Stage.- The perspiration generally commences on the forehead and breast, thence it gradually extends over the whole surface and continues to increase until in most cases it becomes very profuse. So soon as the perspiration has made its appearance the unpleasant symptoms of the hot stage begin to abate and continue to decrease pari passu with the increase of the perspiration until they have entirely subsided. The breathing becomes free and Easy, the tongue moist, and the pulse loosing its frequency and fulness become fuller and soft. The urine though still high coloured deposits a lateritious sediment. After a while the sweating subsides entirely and the patient enjoys a perfect freedom from all unpleasant symptoms from this time until the commencement of the next paroxysm. This period is termed the intermission or

Apyrexia.- Although patients labouring under this disease are generally able to go about and attend to their ordinary vocations during the intermission, they can by no means be said to enjoy a perfect immunity from disease.

The appetite is generally depraved or morbid. Some patients loathing food whilst others have an unnatural desire for it. The countenance is pale and sallow. There is a remarkable indisposition to mental and corporeal exertion and great susceptability to the impression of cold air.

Such is the character of intermittent fever as it usually occurs, but there are many anomalies and deviations from this regular course.

The cold stage is sometimes very imperfectly developed, a slight sensation of chillness only passing along the course of the spine and followed almost immediately by reaction. Or the paroxysm may be announced by nothing more than langour, stretching yawning: or pain in various parts of the body particularly in the head back and extremities.

Writers have mentioned many remarkable irregularities in the course of this disease. Doct. Eberle mentions a case in which instead of the cold stage the patient experienced a peculiar feeling of numbness on the top of the head with great dullness of hearing for about for abous forty or fifty minutes before the supervention of the hot stage. The same writer had also seen instances of the inversion of the cold. hot and sweating stages.

The type of an intermittent is

determined by the length of the intermission or the time which intervenes between the termination of one paroxysm and the commencement of another. There are three primary types. the Quotidian, the tertian and the quartan.

When the duration of the intermission is twenty four hours, the fever is said to be the quotidian type; the paroxysms in this type generally occur in the morning.

When the intermission is extended to forty Eight hours we have the tertian type; the paroxysms of which return about the middle of each alternate day. And when the intermissions are prolonged to seventy two hours we have the quartan type, the paroxysm of which occur on the afternoons of each day on which the intermissions terminate.

Systematic writers have mentioned a number of irregularities and modifications of their primary types, the most common of which are.

1st. The double tertian, of which there is a paroxysm every day, the alternate paroxysms resembling each other in degree of violence and time of occurence. This duplication however is generally accessory to the primary tertian type, very rarely commencing with the fever. The accessory paroxysms are much milder and generally leave the patient sooner than the primary.

2nd. The duplicated tertian, (a variety of the former type) in which there are two paroxysms on alternate days and none

on the intervening ones.

3rd. The triple tertian, with two paroxysms one one and another on the next day.

The primary quartan type also has varieties as double, triple, and duplicated quartan.

These types frequently run into each other and they are all liable to be converted into a remitting or continued form of fever by improper treatment or other causes.

The general character of intermittent fever is subject to various modifications occasioned by idiosyncracy, atmospheric constitutions &c, which are entitled to much attention in as much as they have important practical bearings.

The most important varieties of intermittent fever thus modified are the Inflamatory, the Congestive and the Malignant. The inflamatory intermittent is ushered in with strong rigors which are quickly followed by violent reaction. The pulse is very full hard and rigorous, the carotids and temporal arteries throb violently, the skin is dry and intensely hot, and the thirst urgent.

Although the paroxysm generally terminates in free perspiration the apyrexia is never complete: on the contrary the skin is dry and its temperature above the natural standard, the pulse is frequent quick and tense, and the temper irritable and fretful. There are sometimes

evidences of thoracic affection, such as pains in the chest and a short dry cough. The patient complains of pain in the head back and joints and his sleep is much disturbed.

This form of fever generally occurs in the spring and those of full and plethoric habit are especially liable to it.

It is said that quotidians are more apt to assume this character than tertians and tertians more apt than quartans.

Congestive intermittent. This form of fever is of rare occurrence except in warm climates. Its characteristic symptoms are, a very protracted cold stage attended with vertigo, drowsiness or deep seated pain in the head; a small and feeble pulse; oppressed respiration and sometimes fainting and deep coma. The hot stage is developed slowly and imperfectly, seeming as it were to struggle with the cold stage for the ascendency. Instead of the usual characteristics of this stage there are unequivocal evidences of imperfect reaction and an oppressed condition of the system. The respiration is anxious and confined the pulse small frequent and firm the heat of the skin inconsiderable and but partially diffused, while the patient complains of an internal sensation of heat. The perspiration is so slight that the sweating stage can scarcely be perceived.

During the intermission there are still symptoms of an oppressed condition of the system. Individuals who

are constitutionally nervous and those whose constitutions have been enfeebled by previous disease are particularly liable to this form of intermittents.

Malignant intermittent. This is decidedly the most dangerous form of the disease and like the preceding variety occurs mostly in hot climates.

The cold stage is either very short and unusually violent or else very protracted. The general symptoms that occur in this form of fever are such as denote a low typhoid condition of the system, as a very frequent, small and hard pulse becoming as the disease grows worse irregular and sometimes fluttering. The breath is hot and fetid. hoemorrhage issue from the nostrils, gums, mouth &c, and petechiae make their appearance on various parts of the body. In the last stage the perspiration is very fetid.

The complication of intermittent fever with local affections are very numerous, in fact they may be as numerous as the organs which compose the human body. Some of these local affections are produced by the remote febrific agent whilst the cause of others may be referred to constitutional predisposition, or to whatever general causes that tend to produce organic weakness.

Some of these complications are important in as much as they modify the character of the original disease and also the mode of treatment. When disease of any organ or organs supervenes upon an attack of intermittent fever it is known by those symptoms peculiar to each

organ or organs when in a pathological condition.

Intermittents of very protracted duration are apt to leave behind them troublesome and sometimes dangerous sequellae, as general debility, indigestion, jaundice, dropsical effusions and enlargement and induration of the spleen and liver &c.

Dissections of those who have died of an intermittent shew the vessels of the brain gorged with blood. the lungs much congested. we never find structural disease in these organs, for upon making sections and squeezing them in water, they have resumed their natural appearance and buoyancy, the heart and veins near it are sometimes gorged with blood. the liver is sometimes gorged with blood and discoloured, but when treated like the lungs in water this organ is restored to its natural colour unless it has been altered in structure by previous diseased action when it is easily broken down like coagulated blood. the spleen is sometimes in the same state but we are unable by washing to restore it to its natural appearance this organ is sometimes sound, in some instances very much enlarged and of a dark colour which is the condition described by the older writers by the term "putrid state".

Causes. It seems to be pretty generally acknowledged that marsh miasmata or the effluvia arising from stagnant water or marshy ground when acted upon by heat are the most frequent exciting cause of this fever. In marshes the putrefaction of both vegetable and animal matter is always going forward it is to be presumed and hence it has been generally conjectured that

vegetable and animal putrifaction imparted a peculiar quality to the effluvia arising from thence.

We are not yet acquainted with all the circumstances which are requisite to render marsh miasm productive of the intermittents but it may be presumed a moist atmosphere has a considerable influence in promoting its action. Its nature is not known. miasm produces intermittent remittent and continued fever. When its acts on a weak constitution or in a very concentrated state it sometimes sinks the powers of life at once producing congestion dysentery &c.

The time in which after its introduction into the system its operates is various. In some cases it operates in a single day in other cases within a week or two or three weeks. the most common time is from the first to fourth week after its application. but sometimes it is a much longer period.

A poor diet great fatigue, grief much anxiety. Exposure to cold. lying in damp rooms or beds, wearing damp linen, the suppression of some long accustomed evacuation or the recession of eruptions have been ranked among the exciting causes of intermittents but is more reasonable to suppose that these circumstances act only by inducing that state of the body which predisposes to this complaint. by some it has been imagined that an intermittent fever may be communicated by contagion. but this supposition is by no means consistent with general observation.

The treatment of an intermittent fever resolves itself into those means which may be employed during a paroxysm to arrest its progress or to mitigate its violence. Those which may prevent any return and effect a permanent cure, this forms of course the most important part of our treatment but it is sometimes necessary to palliate urgent symptoms and it always desirable to suspend a paroxysm if possible not only to prevent mischief but also that there may be time for the use of the most effectual remedy.

During the cold stage of an intermittent the patient ought to be kept moderately warm and as the thirst is generally urgent bland and warm drink should be allowed. The hot water bath may be used, it equalizes the circulation and restores the animal heat on the skin and by that means creates a copious flow of blood to the surface and lessens the congestion of the internal organs. if it be not at hand you may lay the patient in warm blankets, apply a bladder of warm water to the stomach and a bottle of warm water to the feet.

If you should see a patient just before the accession of the cold stage fifteen or twenty grains of Ipecacuanha followed up after its operation by from thirty to forty drops of tincture of opium will frequently put a speedy termination to its progress and solve the disease at once. other means have been used for the purpose of curtailing the cold stage. counter congestion was strongly recommended

to the profession by Doct. Kellie produced with the tourniquet — I have known it to be employed in one case in which it produced apoplexy.

The late Doct. M'Intosh has published some observations on the utility of blood letting in the cold stage of agues which are strongly confirmed by well attested facts. I believe the practice has not been fairly tested in our country. Doct. Macintosh states "that he has seen men in the most severe sufferings from the chills relieved after the abstraction of six eight and ten ounces of blood, and he has known three ounces to suffice. the relief, which is the most perfect relief that can be conceived is so sudden when a good orifice is made that it has surprised and delighted every one who has seen this practice. Doct Macintosh has this practice tried on himself he found that before ten ounces had been drawn "the rigors ceased with all their unpleasant accompaniments" and neither the hot nor the sweating stage ensued, "a pleasant sense of heat succeeded the painful one of cold and instead of weakness he was sensible of an acquisition of strength" I will give it a trial whenever an opportunity for doing so shall present itself. I believe this practice will be found decidedly beneficial in persons of plethoric full habit with strong pulse and not enfeebled by intemperance. in persons enfeebled by intemperance with a small and weak pulse bleeding in the cold stage I believe would give rise to alarming symptoms.

The best treatment in the hot stage is to employ every means which can diminish the temperature of the body, as sponging the extremities with water, to use cold drinks remove the bed clothes &c, if there be symptoms of local inflamation blood must be drawn either general or topical which I find has always been employed by intelligent practitioners under such circumstances, a great number of any febrifuge and diaphoretic mixtures have been recommended in this stage such as nitre, antimony the saline effervescing mixture &c.

It is more than doubtful whether such medicines ever diminished the violence or shortened the duration of the hot stage of an intermittent.

When the sweating stage occurs it may be encouraged until the uneasy feelings are mitigated, supply the patient moderately with warm and bland drinks and after this stage you must change the patients linen after drying the patient carefully with towels a second paroxysm has been frequently traced to a chill produced by damp sheets. if there are no marks of local inflamation the patient may be allowed light nourishing food and even more if necessary.

The stomach is sometimes extremely irritable giving rise to frequent and violent vomiting in the cold or hot stage tepid diluents should be employed until there is reason to think its contents are discharged, opium is a good remedy for checking excessive vomiting in this disease, opium has been used in the hot stage of Ague without producing

any unpleasant consequences, however I cannot think opium a proper medicine in the hot stage of Ague. a good remedy to stop excessive vomiting in this and in other diseases not attended with inflamation of the mucous membrane of stomach is a solution of Camphor in sulphuric aether in the proportion of one scruple of the former to half an ounce of the latter of which twenty drops may be given with five or ten grains of calcined magnesia every half hour until the vomiting is arrested.

The most important part of our treatment is to effect a permanent cure which must be accomplished in the period of time which elapses between the termination of the sweating stage and the accession of the next cold stage. The first thing to be done is to find out whether or not there exist any local disease and if so its nature and seat. if any organic disease exist the usual remedies employed in this disease will prove injurious until it be either mitigated or entirely removed.

Tonics are the remedies especially relied upon. at the head of these we must place cinchona and its preparations it will be generally better to give a calomel purge before this remedy is begun with. an ounce of cinchona bark will generally prevent the return of the affection. the sulphate of quinine will answer the purpose better from ten to fifteen grains given during the intermission and continued for a few days will almost invariably cure this disease after every other remedy has failed

I would employ the liquor arsenicalis in dose of three drops, three or four times a day increasing the dose to ten drops three times a day if required watching carefully its effects upon the system, keeping the patient quiet, on a spare diet and give a calomel purge occasionally, nearly the whole class of tonics have been employed in this disease with more or less ~~decided~~ success, the most efficient are salix, cornus florida, liriodendron tulipifera, aristolochia Serpentaria, quassia, columbo &c, the spiders web is highly recommended by some intelligent men, the metallic tonics are highly efficacious particularly the sulphate of zinc, this preparation is an excellent remedy for the cure of intermittents. The muriate of ammonia is favorably mentioned by some as a remedy in this disease it is especially useful in agues connected with visceral indurations, it may be given in union with quinine or bark, enlargement and induration of the spleen and liver being a very common consequence of this disease the employment of mercury may be regarded as our best means for their cure one of the most effectual remedies we possess for the removal of enlargement and induration of spleen is iodine, where visceral disease attends we can hardly succeed in curing the ague till this be removed, a state of congestion or inflammatory tendency may require local bleeding blistering purging &c,

1844

Opium

A Dissertation

Submitted

to

The Faculty of Physic

of the

University of Maryland

by

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Candidate

for the degree

of

Doctor of Medicine

Opium

Opium is the concrete juice of the papaver somniferum. All the plants of this species yield this substance: but the papaver somniferum is the only one cultivated for this purpose. There are two varieties of this species the black and white. Of these, the white yields nearly all the opium used.

"The white poppy is an annual plant with round, smooth, erect, glaucous, often branching stems, rising two or three feet in height, and sometimes attaining five or six in favorable situations. The leaves are large, variously lobed and toothed, and alternately disposed upon the stem which they closely embrace. The flowers are large and terminal very long, and of a white or silver grey color with a tinge of violet at their base. In India they appear in February, in Europe and the United States not earlier than June,

July or August. The calyx is smooth and composed of two leaves which fall when the petals expand. There are four in number; but there is a variety in which the flower is double. The germen, which is smooth, and globular, supports a radiated stigma, and is surrounded by numerous, short, and tender filaments, with erect, oblong, compressed anthers. The capsule is smooth, and glaucous, of a rounded shape, from two to four inches in diameter, somewhat flattened at the top and bottom and crowned with the persistent stigma; the diverging segments of which are arranged in a circle upon the summit. It contains numerous, minute, white seed which when perfectly ripe escape through small openings beneath the stigma. The black poppy differs from the preceding variety only in the character of the fruit. The capsule is somewhat smaller and more globular, and the seeds are of a brown or blackish color. The juice of the capsules alone yields opium by concretion; other parts of the plant contain an opaque juice; which

possesses very little of the properties of opium. It is belived to be a native of Asia: where it is largely cultivated. It is cultivated in England and the south of Europe. In the gardens of the United States it is an ornamental flower. Opium is produced mostly at present by Persia, Turkey in Asia and Egypt. Several parts of Europe, especially France produce small quantities. It is obtained from (the from) the plant from half to full growth. Before half growth it does not yield a profitable quantity: when ripe it yields none.

Opium is obtained from the plant in the following manner.

Longitudinal incisions are made in the capsules in the evening near sunset; two or more at a time and repeated untill the whole surface is scarified. Care is taken that the incisions do not penetrate the cavity of the capsules. In the morning the juice exudated during the night is scraped off, and exposed to the sun; evaporation reduces it to a consistence suitable for kneading and

retaining its form. Being moulded into cakes, and surrounded with leaves and further dried it is ready for market. Another method is adopted with the capsules after they cease to yield opium by exudation. They are gathered beat up in mortars water is added. the liquid thus obtained is inspissated. The opium thus produced is of inferior quality being not more than half as strong as that obtained by exudation.

There are various qualities of opium in market; some of which contain impurities: others the product of different countries possess difference in strength. It is considered inferior when of a blackish color a weak or empyeumatic smell slightly nauseous or bitter taste a soft viscid or greasy consistance a dull pacture an irregular heterogeneous texture; it imparts a deep brownd or to the saliva and leaves a uniform trace when drawn over white paper. It is partially soluble in water forming a thick viscid fluid.

Good opium has a peculiar strong, bitter narcotic faintish odor a bitter taste. When long

chewed, it blisters the lips and produces soreness of the mouth. It is of a deep reddish brown or fawn color, and leaves an interrupted trace when drawn over white paper. It is partially soluble in alcohol and water. It is found by chemical analysis to be composed of morphia, narcotin, codein, meconing, narcein, meconic acid, an odorous oil and some other properties. Of these morphia is the most important. It possesses the anodyne virtues of opium; while it is less stimulating. As a medicine it is much used. Great difference of opinion has obtained among physicians concerning narcotin. Some have attributed great virtues to it, while others have denied its efficacy. It is now pretty nearly established to be almost wholly inert.

Opium acts in two ways, first directly on the nervous system and secondly by being absorbed into the circulation. It is used in different forms. In substance made into pills in one to three grain doses. Tincture, Camphorated Tincture and acetated Tincture or Black Drop. The Tincture is

made thus "Take opium in powder two ounces and a half; diluted alcohol two pounds. Macerate for fourteen days and filter through paper." The dose equal to one grain of opium is twenty five drops. It may be used in all cases where opium can be used. It acts a little sooner than opium and should be used in all cases where we want we want a speedy effect. When long kept with occasional exposure to the air, it becomes thick from evapration, and in this condition sometimes acts with unexpected energy. Acetated Tincture or Black Drop. is another form of giving opium. It is thus prepared. "Take of opium two ounces; vinegar twelve fluid ounces; alcohol half a pint. Rub the opium with the vinegar, then add the alcohol and having macerated for fourteen day filter through paper." The dose equivalent to one grain of opium or twenty five drops of laudanum is twenty drops. It is used in cases of idiosyncracy that cannot tolerate other forms in which it is given; since the discovery of morphia; it is not much used the latter being generally substituted for it.

Camphorated Tincture is another preparation made thus. "Take of opium in powder, Benzoic acid; Oil of Anise each a dram; Liquorice (extract) half an ounce; Clarified Honey two ounces. Camphor two scruples, diluted alcohol two pints Macerate for fourteen days and filter through paper." This known as paregoric elixir is much used where opiates are given to children. In union with antimonial wine it is an excellent remedy in catarrh pertussis and asthma; and it is equally useful as a palliative in consumption.

Powder of ipecacuanha and opium (Dovers Powder is a preparation of great value. It made thus: "Take of Ipecacuanha in powder, Opium in powder; each a dram sulphate of potassa an ounce. Rub them together into a very fine powder." The nitrate of potassa is sometimes substituted for the sulphate. It is diuretic, diaphoretic and febrifuge, and is sometimes substituted with advantage for the sulpate.

Dovers Powder is one of the best anodyne diaphoretics we possess. It may be given in all cases where diaphoretics are

indicated especially if pain and unhealthy discharges be present, except in cerebral disease and sickness of the stomach. In pneumonia with typoid it is exceedingly useful. It is perhaps the best remedy that could follow full bleeding rheumatism. In deranged hepatic secretion, combined with small doses of calomel, it is an excellent remedy. Ten grains of Dovers Powder contain one grain of Opium, one grain of Ipecacuanha and eight of Sulphate of Potassa, or the same quantity of Nitrate of Potassa when the latter is substituted for the sulphate. These are a few of the forms in which Opium is given.

Opium in ten grain doses produces cramp in the stomach, increased fullness of the pulse and diminished frequency soon followed by soporific symptoms.

Age modifies its action. In old persons its action is less energetic than in middle life or young persons. It is most violent in children. It acts earlier and more intensely and produces sooner all its poisonous effects ending in

convulsions and death. When long continued it gradually loses its power on the system, so as to require augmented doses to keep a given effect. Stimulating doses in health enlivens the imagination, produces a species of intoxication the individual makes the most singular gestures. It fills the mind with great courage against the ills of life and the imagination with the most joyful fancies. After the stimulating effect has passed off a corresponding depression seizes the mind and the most gloomy apprehensions of danger and holds unlimited controll of the mind. When Opium has been taken in poisonous doses, emetics, given immediately, will obviate its effects. Generally we are not so fortunate as to follow it sufficiently soon to prevent its effect. We generally find the patient with pain and cramp in the stomach great tendency or laboring under symptoms of advanced poisoing. If the person can swallow, after useing the stomach pump emetics should be given. The

best are the sulphates of zinc and copper in doses of from half to a dram. Ipecacuanha Tartar Emetic: Mustard and Salt a table spoonful of each. The action of emetics may be assisted by warm water or tickling the throat with a feather; dashing water over the head and shoulders is a useful adjuvant. A person with deep coma dis phagia and insensible may sometimes be roused by pouring water from a heig ht upon the face and head. It is often necessary to obviate the dangerous effects of debility after a poisonous dose opium. Stimulation is indispensibly requisite. Carbonate of (Amonia,) Ammonia; Aromatic Spirit of Ammonia and wine whey may be used for this purpose internally. exter nally sinapisms to the epigastrium and stimulating frictions to the surface. Where emetics fail to act; vinegar poure ed into the stomach followed by a quan tity of salaratus, the stomach is emptied by effervescence. Galvanism has been in these cases. Bleeding is sometimes practiced. When it is desirable the stom

ach should first be evacuated as bleeding favors absorption of the contents of the stomach. Opium is used by the mouth in doses of from one to three grains; as an enema in three times that quantity. It is also applied to the surface and acts well on a blistered or denuded surface. In small doses it stimulates: large ones are sedative. It is also diaphoretic and astringent. Large doses relieve pain. Should be given at long intervals for this purpose. Opium has been used in intermitent fever. It softens the pulse, moistens the skin the febrile action is lessened. It has been used in the cold stage: it shortens the chill and renders it milder and in some instances has cured the disease. In typhoid fever after has continued sometime and the patient has low symptoms a weak rapid pulse low muttering delirium. Opium in stimulating doses increases the action of the circulatory and nervous systems and it is of great service in union with other stimulents. It lessens

pain in many incurable diseases and is a valuable palliative in cancer and phthisis. In cases where the continuance of pain would aggravate the disease and perhaps endanger the life of the patient, it is invaluable. In the early stage of catarrh it is useful: it is equally so in the declining stage. It is also useful in some states of inflamation. Its action is analigous to capsicum in sore throat, or stimulents in conjuntivitus. In diarrhea the tincture in union with castor oil generally relieves it. It is useful rheumatism after proper depletion and cathartics. It should be given in large doses four or five grain doses in substance or in dovers powder. It is more useful in the chronic than in the acute variety. In gout after cathartics and depletion it is very useful. Colchicum should be combined with it to prevent the effects of Opium on the excretions. It mitigates pain in the passage of gallstones and relieves that produced by calculus in the bladder. Used as an injection into the urethra it reduces pain

ful chordee. It increases the purgative effect of calomel and castor oil in dysentery. In general or local irritation tending to inflamation Opium in large doses quiets the system and removes the irritation. In diseases of the nervous system Opium is indispensible. We have no remedy equally efficacious in relaxing spasm and controlling irregular movement depending on morbid nervous action. It is used in neuralgia, hysteria and tetanus. It has cured the idiopathic variety of the latter disease. The traumatic variety has hitherto defied this and every other remedial agent. In Pneumonia and Pleurisy after full bleeding it is sometimes used very advantagiously. In Cholera morbus the tincture in large doses is almost a specific. In morbid vigilance it quiets the nervous system and induces sleep. In delirium tremens after proper evacuations it is an important remedy. It should not be continued too long or given in too large doses as the narcotic effect is liable to be dis

astrous. In Mania after proper evacuations it is very useful. It must be given where there is exalted action of the pulse, headach and flushed face; but in the quiet variety with depressed pulse a palid face and depression of the system generally no pain in the head; opium is exceedingly useful. indeed there is scarcely a malady mental or physical during whose progress Opium may not be invoked. It stands at the head of narcotics if not at the head of remedies. It relieves acute and chronic diseases, palliates suffering in fatal disease and fills the mind with cheerfulness and hope even to the verge of the eternal world.

1844

An
Inaugural Dissertation
On
Bronchocele
Respectfully Submitted
To the
Examination
Of the
Provost, Regents, and Faculty of Physic
Of the
University of Maryland
For the
Degree of Doctor of Medicine
By
Isaac Smith
Virginia.

A Treatise
on the
History and Treatment
of
Bronchocele.

Bronchocele is derived from βρόγχος the windpipe and κήλη a tumour. This disease has been called by a variety of names. By the Swiss it was named Goitre. Hesler thought it should be called Trachocele. The English designate it Bronchocele. And Alibert has given to it the name of Thyrophraxia. The term Bronchocele always signifies in this country an enlargement of the Thyroid gland which with the disease of the surrounding parts sometimes not only occupies all the space from one angle of the jaw to the other but a considerable projection on each

side of the neck advancing forwards some distance beyond the chin, and forming an enormous mass which hangs down over the chest. The swelling which is always more or less unequal is soft spongy and elastic to the touch especially when the disease is not in a very advanced stage; no fluctuation is usually perceptible and the part is exceedingly indolent. The skin retains nearly its usual color, but the veins of the neck become more or less varicose when the tumour is of very long standing and great size. The tumour generally begins between the eight and twelfth year, it enlarges for three or four years and then proceeds very rapidly and forms a bulky pendulous tumour. Women are far more subject to the disease than men, and it is observed to increase very rapidly during confinements in childbed.

Bronchocele sometimes affects the whole of the Thyroid gland, the two lateral lobes and the intervening middle portion — in this case it is

not unusual to remark three distinct swellings for the most part of unequal size. Frequently only one lobe of the gland is enlarged. Finally in some dissections the gland has been entirely unaffected, the whole tumour having consisted of sarcomatous disease of the adjacent lymphatic glands and cellular membrane. The right lobe is more frequently enlarged than the left. The ordinary seat of Bronchocele is the Thyroid gland, but sometimes cysts are formed in the cellular membrane. It is sometimes observed that the swelling is encisted and filled with matter of various degrees of consistence resembling honey &c. In some cases it is emphysematous and in others it is sarcomatous having the consistence of a gland which is enlarged but not scirrhous. The different characters prove that the treatment should not be the same in all cases.
Bronchocele is common in some of the valleys of the Alps, Apennines and

Pyrenees, and there are some places where the disease is so frequent that scarcely an individual is exempt from it. Larry in travelling through the valley of Maurienne, noticed that almost all the inhabitants were affected with Goitres of different sizes, whereby the countenance was deformed. And Postleglione remarkes that in Savoy and Switzerland Goitres were considered as indications of beauty. In many the swelling is so enormous that it is impossible to conceal it by any sort of clothing. A state of idiocy is another affliction which combines with Goitre, but all those who have the disease are not cretins (as they have been termed). Several writers ascribed the affection of the mind to the diseased state of the Thyroid Gland. But this opinion appears to want foundation since the mental faculties are weak from birth. In many idiocy is complete from infancy where no Goitre exists or where the tumour

is very small, so that there can be no impediment to the circulation, or lesion of the brain.

Bronchocele is not confined to Europe but is met with in almost every part of the world. Professor Barton in his travels among the Indians in the state of New York saw the disease in an old woman the wife of a chief, and found that the disease resembled that seen in England. In North America Bronchocele attacks persons of every age, but is most frequently seen in adults. In Lower Canada it is said to be frequently seen, and that the blacks and those persons leading a laborious life are exempt from it. In Europe Bronchocele does not generally rise so high as the ears, as in the cases mentioned by Wiseman. Sometimes however this happens. Hebert mentions a case in which a part of the tumour as large as a hens egg projected into the mouth — the swelling extended from the ears to the middle of the breast and he

adds that it was an inert mass destitute of vitality, an assertion contradicted by Sir Astley Cooper.
When the neighbouring lymphatic glands are affected, and when the base of the tumour is widened and extends from one side of the neck to the other, the swelling gradually loses itself in the surrounding parts, and is not circumscribed as in ordinary tumours. It is soft to the touch and somewhat movable but after a few years when it has ceased enlarging, it becomes firmer and more fixed. When the disease is large it generally occasions a difficulty of breathing which is aggravated by the patient taking cold or by any bodily exertion. In some instances the tumour is so large and affects the breathing so much that there is a loud whizzing occasioned. But this remark is not without exceptions for in some cases although the swelling is large the patients suffer little or no inconvenience, the disease generally causing little pain. The difficulty of

respiration produced by the pressure of the tumour and the enlargement of other glands is the most dangerous effect of the disease since by disordering the pulmonary circulation it renders the pulse irregular and intermitant — a strong throbbing is excited in the region of the heart followed by a fatal disease of the lungs themselves consequences not often thought to have any connection with Bronchocele though it is actually the immediate cause of them.

The causes of Bronchocele are little known. The following are the doctrines of different writers on this subject. The doctrine that Bronchocele was caused by the earthy impregnation of water used for drink, is objectionable, for the waters of Derbyshire in districts where the disease is considered endemic contain much supercarbonate of lime, but that in common use about Nottingham where the disease is almost unknown is strongly impregnated with sulphate of

lime. Loderé explained the impracticability of the doctrine that the desease could be caused by any particular kind of food. Respecting the influence of particular water in bringing on the desease Dr Coindr thought it deserving of credit because he believed that the use of distilled water prevented the growth of the tumour, and even tended to lessen its bulk.
However it has been fully proved by the observations of the celebrated Humbolt that all the explanations hitherto devised of the causes of Bronchocele are unsatisfactory. Persons (he remarks) with Bronchocele are met with in the lower course of the Magdelen river, in the upper part and on the flat high country of Bogota six thousand feet above the bed of the river. The first of these regions is a thick forrest while the two last present a soil destitute of vegitation. The first and third are very damp, the second is peculiarly dry. In the second and third regions the winds are impetuous in the first the air is stagnant. Added

to these striking differences of situation we have the difference of temprature which varies greatly. The difference in temprature of the waters drunk by the inhabitants of Marquita and those of Santa Fe where Bronchocele abounds is ten or twelve degrees.
Bronchoceles are more common and more hideous at Marquita where the springs which flow over granite rocks are according to Humbolt more pure than those of Bogota where the climate is much more pure and less sultry.
Baron Larrey thought that cretinism depended on malformation of the head.
Prosser is inclined to believe Bronchocele a kind of dropsy of the Thyroid Gland similar to the dropsy of the ovary, and mentions one case where Dr Hunter dissected one Thyroid Gland which had been considerably enlarged and contained many cysts filled with water - these he concludes must have been Hydatids.
Dr Baillie remarks that when a section is made of the Thyroid Gland affected

with this disease the part is found to consist of a number of cells filled with a transparent viscid fluid. In all probability the ordinary Bronchocele is entirely a local disease, patients finding themselves in all other respects perfectly well.
There is no malignancy in the disease. the swelling is not prone to inflame or suppurate though abscesses do sometimes form in them. In some extreme cases pressure of a large Bronchocele may not only affect the patient by rendering respiration difficult, but actually causing death by suffocation. The disease is sometimes seen in scrofulous subjects but Helmer and several others have proved that one ~~xxx~~ is quite independant of the other.
Dr Postiglione has given the following points of difference between Bronchocele and Scrofula. Bronchocele is simply a local disease of the neck, the general health being but little affected. On the contrary Scrofula extends its effects to the whole system attacking not only the lymphatic glands but also the

muscles cellular membrane ligaments cartilages and bones. Both diseases chiefly occur in young subjects, but Bronchocele often begins at a later age than Scrofulae and does not like the latter spontaneously disappear as the patient approches puberty. Scrofulous glands often suppurate and ulcerate Bronchocele rarely undergoes these changes. The thickening of the upper lips of Scrofulous subjects is not an attendant on Bronchocele.

Scrofula is always hereditary. Bronchocele is never so. Nature alone often cures Scrofula while art is rarely successful. On the contrary Bronchocele is never cured by nature but very often by art.

Treatment of Bronchocele. Certain localities contribute to the origin of the disease. Alibert states that a change of air is one of the best remedies, as he has known many Swiss ladies who came to Paris with Bronchoceles, in whom the the tumours subsided after they had remained some time in that city.

Among the older Physicians Bronchocele

was treated by blistering, by the administration of burnt sponge, and occasionally by giving calomel, and using frictions, which were made on the part at the same time. The efficacy of burnt sponge was thought by them to be greatest when given in the form of a lozenge composed of ten grains of this substance, ten grains of burnt cork and the same quantity of pumice stone. These powders were made of the proper form with a little syrup and the lozenge placed under the tongue and allowed to dissolve. To the latter circumstance much importance was attached. Some practitioners gave a scruple of burnt sponge alone thrice daily, while others added a grain of calomel to each dose. Calomel was given about once a week for its purgative effect as long as the disease lasted or as long as the use of the sponge was continued. When mercury was combined with each dose of this medicine, no other purgative was deemed requisite. The utility of burnt sponge in this disease

has now been proved to depend upon the Iodine in its composition.
Iodine was discovered by Courtois a manufacturer of saltpetre in Paris in 1812. But six years elapsed before it was tried as a medicine. It appears that in 1820 Dr Coindet in searching for a formular found that Russel had recommended the ashes of the fucus vesiculosus for the cure of Bronchocele, and he was led from analogy between this substance and the burnt sponge so long celebrated for its efficacy in the treatment of this disease to suspect that Iodine was the active principle of both. The great and unexpected success which resulted from its use, at once indicated the power of Iodine as therapeutic agent and encouraged Dr Coindet to pursue his researches in searching it an efficient article of the Materia Medica. In the same year his conjecture was confirmed by the discovery which ~~which~~ was made by Dr Fyfe of Edinburgh that this substance was actually contained

in the ashes of the burnt sponge. That Iodine is a medicine of great efficacy in the treatment of Bronchocele, not a doubt can be entertained after the many cases now recorded in proof of it. Friction with the ointment on the swelling may often be advantageously conjoined with the use of Iodine for internal exhibition. Dr Coindet was the first who used this medicine in the form of alcoholic tincture and obtained very surprising results from its administration. He next tried friction on the tumour itself with an ointment composed of Hydriodate of Potassa and lard, and succeeded so well that out of one hundred cases more than two thirds were completely cured by it. Iodine has been used of late years by Dr Congdon of Buffalo with the best effect – he has reported its entire success in a number of cases.
An elegant preparation of Iodine is made at Lausanne in Switzerland which is found of great use in the same cases for which it is used in

this country. It is composed by dissolving by a gentle heat ℥j or ℥ij of white soap in ℥ij of proof spirit, and ℥iv of Iodide of Potassium dissolved in an equal amount of proof spirit. It is suffered to cool slowly in wide mouthed bottles well corked.

Mention has been made of many cases of Bronchocele having been cured by the free establishment of suppuration. Volpi states that such ulcerations are not unfrequent. He has published two cases of this kind which occurred after a nervous fever, and he records a third case where the swelling inflamed in consequence of a blow, suppurated and sloughed so as to entirely disappear. The disease in its inveterate form has also been sometimes removed by the application of caustic, but its operation is tedious and painful and attended with danger. The knife has also been resorted to, but the operation is attended with so much danger that it ought never to be attempted except under the

most pressing circumstances. The many large arteries naturally distributed to the part their still greater size in Bronchocele and the vicinity of great vessels and important nerves render the undertaking a thing of no little difficulty. Two cases are related which do not encourage practitioners to have recourse to the operation. In one so copious a hemorrhage took place that the Surgeon was obliged to stop in the middle of the operation, the patient died in a few hours.
In the other the same event nearly took place the patients life was only saved by making compression on the wounded vessels by the hands of assistants for a whole week. Hemorrhage is not the only risk. Dupuytren removed a large Bronchocele that caused dangerous pressure upon the Trachea. The whole gland was taken away and although only a few spoonsful of of blood were lost. the patient died with pale face hurried respiration cold skin &c owing to the injury of some important nerves.

These causes show the danger of the operation. But the Thyroid gland has been successfully removed in six cases by Dr Heckemeier of Dresden. When the quantity of blood flowing into the tumour, is suddenly and greatly lessened, the size of the swelling commonly undergoes a considerable diminution. The experiment has been made several times. The arteries of the enlarged gland have been tied, and in several cases the reduction of one third of the tumour was the consequence.

It has been remarked by Dr Parry that Bronchocele is frequently caused by, or produces Cardiac disease. And another modern writer mentions that he has lately seen a case of this complication where the disease was accompanied with extraordinary palpitations of the heart — in the case here referred to there was great irregularity of the pulse, and the difficulty of breathing was such that the patient was obliged to submit to venesection every month

whereby he was rendered quite emaciated.
Mr R. Burns in a work on Bronchocele
recommends repeated topical detraction
of blood from the tumour. Electricity
he observes has sometimes a marked
effect on Bronchocele, but regular and
long continued friction is the remedy
that he places most confidence in.
By perseverance in this plan a Bronchocele
treated in London was materially
reduced in six weeks. Mr Burns recom-
mends the friction to be made with
flannel covered with hair powder,
and the part to be rubbed at least
three times a day for twenty minutes.
In two cases related by Dr Clark the
patients were cured by the steady
use of the compound plaster of
ammoniac and mercury conjoined with
the internal exhibition of Iodine and
occasional purgatives.
In Geneva Iodine was given infused in
wine to prevent the cramps of the
stomach which sometimes accompanys
the disappearance of the swelling.

Muriate of Baryta has likewise been recommended. Sir J. Wilie physician to the Emperor of Russia prescribes three grains of the submuriate of Mercury three of the antimonical muriate of iron four of burnt sponge and ten of the bark of the Laurus Cassia divided into twelve doses one of which is to be given twice a week with a gentle anodyne at night.

Mr Cooper in his excellent chapter on Bronchocele in the first volume of his Surgical Dictionary adds his own valuable testimony to the virtues of Iodine having witnessed its success in a number of cases which had resisted all other remedies.

Several American writers have described Bronchocele as existing in various parts of our country whose geological features very widely differ in many respects. In Vermont, New York, Pennsylvania and Ohio the disease is by no means unfrequent. Many valuable observations respecting it may be found in the writings of Professors Barton and Dibson.

Some observations on Goitre as it appears in the western part of New York, has been made by Professor Francis of that State, from which we infer that as the climate and cultivation are meliorated the instances of the existence of this disease will become less frequent. Although cases of Goitre may formerly have occurred frequently in New York, the fact is certain that they are much more rare at present,— that in particular portions of the western country repeated examples of this are to be found, may be known by the writings of Dr Francis, who states that in the village of Utica which contains between five and six thousand inhabitants no case of Bronchocele could be pointed out, although formerly the spot where Goitre was peculiarly prevalent.

The opinion relative to the accuracy of this statement, is strengthened by the testimony of Dr Coventry. A similar remark may be made with regard to the former prevalency of the disease throughout the extensive region from Utica to Buffalo. To assign a satisfactory cause for this

disease is difficult perhaps impossible.
Dr Barton has endeavoured to show that Goitre and intermittent fever have one common origin, and argues this opinion from the simultaneous prevalence of these diseases — from the frequency of glandular affections where intermittents abound — and from the opinion that persons afflicted with Goitre are exempt from intermittent fever although in the midst of this disease.
Of seventy two cases examined by Dr Francis only two were in male subjects. He saw it in an infant only a few months old, and subscribes to the opinion that it often depends on constitutional causes and is sometimes hereditary.
The doctrines of Hamilton and others in considering the sexual functions connected with the disease are sustained by its greater prevalence among women, and also by some known facts connected with parturition.
Dr Francis found that the disorder in a number of cases was obviously associated with menstruation. He found the left

portion of the gland was most frequently the seat of disease and in no instance was it connected with idiocy.
He reports one instance of a formidable which occurred in a young married female who upon leaving the neighbourhood of Catskill and removing to the southern states after a residence of three years was entirely relieved of her Goitre.

To sum up the whole in few words. Bronchocele is an enlargement of the Thyroid gland — cause not known — treatment Iodine and its various preparations.

1844

To the Professors
of the
University of Maryland
this
Inaugural Dissertation
for the Degree of
Doctor of Medicine
is respectfully submitted
by
Horatio Thomas Bladder

Pneumonia

The term pneumonia was used indiscriminately by the ancients to define all acute diseases of the chest. Since then the signification has become more limited, and is now usually applied to that form of inflammation confined to the parenchyma of the lungs. We may define pneumonia as consisting of a general febrile disturbance with pain, dyspnoea, cough and expectoration

General Symptoms

The patient is affected in the outset of the disease with more or less sensation of lassitude and fatigue, loss of appetite, and, in short, that general feeling of indisposition which usually marks the invasion of all acute inflammatory affections.

These symptoms are usually followed by a chill, although not necessarily, for its occurrence appears to depend, in a great degree, on the situation of the patient at the time of the invasion. If he happen to be exposed to the open air at that period, a chill almost invariably follows, but if it occur that the

patient is properly protected by warm clothing there may be no manifestations of a chill. The manifest irregularity then with which the symptoms appear are referable in a great degree, to the amount of exposure at the time of attack. Febrile reaction in a greater or less degree soon succeeds the chill when it occurs. Thus, if we see the patient within twenty-four hours after the attack he will generally be observed to have a flushed countenance with a considerable amount of pain in the limbs and back; tongue presenting a furred and white appearance, appetite much impaired, pulse generally full and hard at the outset, but frequently slow and feeble

<u>Pain</u> is a frequent and early symptom and indicates the seat of the disease, but, in amount, is proportioned to the inflammation of the pleura. In 301 cases verified by autopsy, pain was present in all except 210, and in 161 of 182 cases, it made its appearance within the first twelve hours. The seat of the pain is various, and is experienced in different parts of

the chest, but is usually in the centre of the mam=
=mary region, as indicated by 79 of 175 cases
examined, and in 15 of the cases in the same group
the pain corresponded to the seat of the disease,
in the lungs

6. Dyspnœa. This is also one of the symptoms of pneumo=
=nia, but its intensity is regulated much by the extent
of the disease. There is no direct relation between
this symptom and pain. The frequency of respiration
is owing to the diseased lung being deprived of
the qualities necessary for the performance of its
proper functions, so that a lesser amount of blood
is exposed to the action of the oxygen of the
atmosphere, and a smaller quantity of air recei=
=ved into the lungs during inspiration, hence the
necessity of its being more frequently changed.
The proper inflation of the healthy portion is also
prevented by the motion of the lungs being sus=
=pended, and the actions of the respiratory muscles
imperfectly performed. When the lesion is very
limited and confined to one lung only, the

increased respiration is not well marked, but when it extends to the whole of one lobe or involves both lungs this symptom is present to a great degree, and predicts an unfavorable result.

Expectoration. This appears at the outset of the disease, and consists of an exceedingly viscid rusty colored mucous, but presents various degrees of color as that resembling barly, candy, or blood. The shades arise from the coloring matter of the blood. Of all the general symptoms of pneumonia this is most to be relied on in the first stage, because it is characteristic. The sputa mostly appears within the first three days. In 131 cases it was seen in 45 on the first days, and in 66 cases the majority had it of a rusty and bloody appearance at the outset.

Cough. This symptom, to a greater or less extent is an almost constant attendant on pneumonia. In the commencement, however, where the attack has been sudden and severe it is frequently absent and is then said to be latent, but as the affection

progresses secretions accur and the cough again appears.

Anatomical Characters

The morbid change of structure induced in the lungs by inflamation will be considered under three divisions according to the number of stages into which it is usually divided. 1st or Engorgement, 2d or Red Hepatization, 3d or Gray Hepatization; together with the phenomena of resolution

Engorgement. In this stage of pneumonia the lung presents externally a brown or violet color, and in texture is much finer than in the healthy condition of the organ. Its density also exceeds that of the sound state. The crepitant condition is still perceptable under the fingers but much less so than in the healthy state: and upon pressure the air vesicles will be perceived to contain a large portion of extravasated fluid. The pressure of the finger is retained upon it similar to that made upon an edematous limb

By cutting into the substance of the lung it presents a bright red color, and a large quantity of red serous fluid escapes from the orifice. On pressing the effused liquid from the engorged lung and distending the cells with air, its original color, elasticity, and crepitous feel will be found to have been restored.

Red Hepatization. In this stage of the disease there is no appreciable crepitus present, the lung having acquired the appearance and density of liver, and sinks when placed into water. When an incision is made into a part a small portion of red serous fluid escapes from it. If the incised surface be examined with a magnifying lens, it will be perceived that the lung has lost entirely its cellular appearance, and exhibits a red granulated aspect and is with facility broken down and reduced to a pulpy consistency by pressure between the fingers. A hepatized lung appears to have increased in volume. This, however, is owing

to the inability of the organ to collapse on being removed from the chest as in the healthy state

Gray Hepatization. This, the stage of purulent infiltration, appears to be consequent upon a higher degree of inflamation than that which produces red hepatization. In the present condition the parenchyma presents the dense and granular qualities described in the preceding stage, but in color there is a manifest difference: this stage being characterized by the substance of the lung being of a pale or light straw-color, Gray hepatization is the uniform color in the beginning of the stage, but varies at the close. The lung is exceedingly friable and moist; and the finger is easily thrust into its substance, and when thus separated or by incision, exudes a yellow opaque puriform fluid with little appreciable odor.

The conditions of abscess and Gangrene occur so seldom that it is deemed unnecessary to speak of them here.

Physical Symptoms

1st Stage. In this stage the lung is infiltrated with a viscid fluid which naturally produces a change in vesicular murmurs and not unfrequently gives rise to harsh respiration but which is observed in the healthy portion of lung only. The earliest signs observable in this disease and of far greater importance is the Crepitant rhonchus. It is present only in inspiration and is owing, as is supposed, to a sudden and forcible dilatation of that portion of the parenchymatous substance of the lung in immediate contiguity with the terminal branches of the bronchia. This rhonchus is perhaps a universal symptom in the first stage and is manifestly a specific symptom as it is always present in this disease and occurs in no other. Its sound resembles that produced by rubbing a lock of hair between the fingers When the inflammation has extended into the stage of induration crepitant rhonchus and the respiratory sounds are no longer perceptible.

and their absence is sufficient evidence of the degree of hepatization having supervened. Percussion affords a slight diminution of clearness with slightly increased resistance

2nd Stage. The signs of this stage of the inflammation are more strictly pathognomonic. Bronchial respiration is a highly important auscultatory sign in this stage and is here more marked, perhaps than in any other pulmonary lesion, owing to the perfect consolidation of the pulmonary substance, arising from the infiltration of the parenchyma with blood and plastic lymph. Bronchophony, which is merely an increased degree of ~~vocal~~ resonance, is always present in this stage as an accompaniment to bronchial respiration, and is occasioned by an inordinate density of the parenchyma circumventing the bronchi, rendering the substance a better conductor of sound and transmitting the voice more readily from the centre to the

circumferance. It often occurs that crepitant rhonchus is heard in company with bronchial respirations. particularly when the patient breathes very rapidly; this is owing to a portion of the pulmonary tissue still remaining in the first stage of inflamation. Bronchial Cough is also an accompanying sign. and is often distinctly heard while bronchophony is scarcely audible. In this case the surface and adjacent parts are still permeable to air; the bronchial cough and the respirations having therein resi= =dence in the interior. The sound elicited on percussion is dulness over the affected part. arising from the vesicles being dist= =ended with fluid. thus obstructing completely the ingress of air. When the extent of the hepatized lung is small. percussion seldom proves of much service

<u>3rd Stage</u>. The signs of this stage are not so characteristic. and the results of auscultation are. in many cases. exceedingly obscure.

Bronchial respiration is perceptible, but in a very feeble degree; the same may be said of vocal resonance. The sign discovered by percussion is intensely dullness

Resolution. When pneumonia terminates by the recovery of the patient the separation is in an exactly opposite direction from what was observed in the progress of the disease. During this period the retrogression begins at the upper portion of the lung and extends downward. When the disease has advanced to the third stage or purulent infiltration, owing to an abundant flow of muco-purulent fluid into the bronchi, mucous rhonchus is developed. Bronchial respiration and bronchophony reappear in order, and which gradually diminish as the pulmonary structure resumes its porous character and loses its ability to conduct sound. As the resolution advances the returning crepitant rhonchus is discovered, but is observed to be of a more moist nature than the true crepitant

As the pulmonary structure becomes more permeable to air the vesicular respiration advances untill the healthy function of the lungs becomes restored.

Causes

This disease prevails in all countries; and it is well ascertained that there is no season of the year in which it may not be observed. In some countries, however, the disease prevails to a much greater extent than in others; and there are particular seasons of the year in which it most frequently occurs. In northern latitudes and in regions where a great degree of cold, combined with a moist atmosphere prevails, we find the disease more prevalent than in regions where the climate is warmer and more equable as in the vicinity of the equator. It has been ascertained that a greater number of cases of this disease occur in the months of spring, while those appearing in summer are comparatively rare. Alternations of temperature: or sudden transitions from heat to cold or vice versa

are a productive source of this affection, Age appears to have some influence in the production of this disease. thus we see it occurring more frequently in early childhood and in advanced age — the two extremes of life. At these extremes the disease is usually a secondary affection, whereas in the middle periods of life it is generally an idiopathic disease. The periods of adult life in which pneumonia most frequently occurs is between the age of 20 and 30 years as has been satisfactorily proven by statistical tables. Males are more liable to the disease than females but from no other cause apparently than that they are more exposed to the external influences which produce it principally vicissitudes of weather. Constitutional predispositions is undoubtedly one of the causes of this disease, and should therefore be taken into account in estimating the causes of pneumonia just as the predisposition to tubercle, rheumatism and diseases of the heart. Febrile affections of the

various things are a fruitful source of this disease in children, as continued and eruptive fever; among the latter rubeola, varicella and small pox are especially inclined.

Diagnosis

The characters of pneumonia are so strongly and peculiarly marked that there but few diseases with which it is likely to be confounded. The physical signs are doubtless the most important in the diagnosis of this affection, as they define the extent as well as the nature of the disease. There are, however, functional signs of much value which, when taken in conjunction with those of a physical character may be viewed as characteristic of pneumonia, namely, dyspnoea, expectoration, pain and cough. The physical signs are frequently only required to discover the extent of the affection, as its character is rendered sufficiently apparent by the general symptoms.

Bronchitis. Pneumonia has been confounded with bronchitis. It requires, however, but slight

discriminating powers to distinguish the one from the other. The expectoration respiration and sonorous and sibilant rhonchi. the former chiefly heard in expiration, the latter in inspiration; and the resonance on percussion, besides the absense of those signs which mark so conspicuously inflamation of the lungs, tend, all of them, to mark the diagnosis so far as bronchitis is implicated

Pleuritis. The positive as well as the negative signs which distinguish pneumonia from bronchitis are readily recognized. The acute pain accompanying the effusion into the cavity of the pleura; the transparent sputa, and the rubbing friction sounds are sufficient to answer this end

Prognosis

The prognostic signs in this disease are exceedingly variable, as they are in all other affections of this kind. The pneumonia when confined to one lobe is more favorable than when the whole lung is affected; and that of one lung more than when both participate in the disease

The mortality in females is said to be greater than in males. When the inflamation occurs in previously healthy subjects, and remedial means are applied in the early part of the course. The disease will evidently be much modified. When the characteristic sputa is freely expectorated. and symptoms of diuresis and gentle diaphoresis appear. there is. probably. sufficient foundation for anticipating a favorable result. partical==arly if the cough and pain have decreased at the same time. When however. the pain becomes more generally diffused. the cough suppressed and accompanied with thin sanguinous sputa. with lividity of the countenance and lips. sense of suffocation and anxiety. with a soft and irregular pulse. and appearances of delirium coma or convulsions; with heat of the surface of the body while there is a sense of coldness in the interior. there is evidently great danger to be apprehended

Treatment

The constituent principle of this affection, as evinced by symptoms and by anatomical examinations, is a highly destructive inflammation of the substance of the lungs. Among all practical authors there appears evidently a coincidence of opinion on this point; and there is probably no disease of the system in which there is a more perfect concurrence of opinion in regard to its treatment

Venesection. This remedial application in pneumonia is to be regarded as one of momentous importance; its utility is so viewed by all. yet the frequency of its repetition and the amount of the abstraction is, by no means so fully established. By some the method of bleeding is reduced to a regular formula, but this, it is very clear, cannot consistently be adopted. The previously healthy condition of the patient, the knowledge of the disease, and the symptoms present, alone, should guide us in the extent of the application of this

remedy. In general the bleeding should be free and full at the outset. and in one of plethoric habit, strong constitution and previously good health it may be extended to the point of syncope without injurious consequences being likely to follow. But if not carried to this point should at least be continued, until a sensible impression is made on the pulse. The bleeding may be repeated at proper intervals if the pulse indicates excitement or persistant vascular action. The appearance of the blood is often referred to in regard to the necessity of a repetition of the bleeding. but is evidently unable to decide that a further depletion is required by venesection, General bleeding is indicated only in the early part of the disease. and when it has progressed to the second stage it may be proper to substitute local bleeding. particularly if local symptoms require it. and if the disease has advanced to the third stage its use will generally be injurious

Antimonii et Potassæ Tartras. The next remedy in pneumonia to be considered, and which, in importance ranks next to bloodletting, is the tartrate of antimony. This appears to exert a specific influence over this disease not exerted in other inflammations. It is administered in various quantities and with different views; either to produce a diaphoretic, expectorant or an direct sedative effect. In order to produce diaphoresis or expectoration it is proper to give it in small doses of gr. 1/8 to gr. 1/4 and repeated at intervals of about two hours either separately or in combination with Chlor. hyd. mit. - particularly where there is evidence of hepatic derangement. It may also be administered in conjunction with Nit. potassæ, or it may be combined with the following prescription Scilla gr. ii Tart. Ant. gr. 1/4 Opii gr. 1/2 There are no dangerous consequences to be apprehended from the medicine administered in these doses except perhaps in a very few individuals possessed of a peculiar idiosyncrasy with regard to it.

In the greater number of cases however, the medicine produces a proper degree of perspiration and a diminution of the arterial excitement which performs so conspicuous a part in this disease in the form of general inflammatory action. The tartar emetic should not be taken in too large quantity of fluid nor in too concentrated a form. That it may produce its proper sedative effect it is recommended to be increased so that 15 or 20 grains or more shall be taken within the 24 hours. When administered in such quantities it sometimes produces emesis and followed in some instances by free catharsis. This condition will probably continue for a few days when the patient acquires the capacity of enduring it or tolerance of the remedy, as it is usually termed, and experiences no particular sensation after taking it. Its effects upon the system may probably be attributed in part to its revulsive power but its greater virtue is perhaps ascribable to its sedative effect.

Sometimes, in two or three days it produces an uncontrolable diarrhoea, when it should be dispensed with or decreased in quantity and combined with a small portion of opium. Under this treatment resolution may generally be produced in three or four days when the remedies may gradually be diminished.

An
Inaugural Dissertation
on
Endocarditis,

submitted to the Faculty of Physic
of the University of Maryland
for the degree of
Doctor of Medicine,
by
Charles N. Smith,

Alms House
1st Feby. 1844.

of Norfolk, Virginia.

Endocarditis.

Inflammation of the lining membrane of the Heart, first called by Bouillaud Endocarditis, owes its discovery to the great assistance given to diagnosis by auscultation, together with the lights of modern pathology. Its existence, therefore, has been known only of late years. Corvisart, the first great writer on diseases of the Heart, seems to have been in entire ignorance of it. Even Laennec considered it of infinitely rare occurrence. Of his immortal discovery, auscultation, later investigators have availed themselves, and have placed our knowledge of this affection almost upon a par with that of other diseases of the chest. To Bouillaud the credit is given of having particularly

draw the attention of the profession to this disease.

Endocarditis exists most frequently in combination with other diseases, yet is by no means a rare affection compared with other diseases of the Heart, in its uncomplicated form; the last named author saying, "that it occurs as least as frequently as Pericarditis". The many individuals in whom we observe a murmur with one of the sounds of the heart, proves that it is not an unfrequent affection in some form or other.

It is frequently met with in acute febrile diseases. Legroux recommends strongly that we examine the heart in all such cases when the local symptoms, such as articular pains in rheumatism, are not proportionably severe with the constitutional disturbance. Endocarditis is a frequent complication with Pneumonia, the latter being one of the severest inflammatory affections; and Bouillaud says that one half of the cases of acute articular rheumatism, with much fever, have the sero-fibrous tissue of the

heart affected – Endocarditis and Pericarditis accompanying each other in almost all these cases – the fibrous tissue at the auriculo-ventricular and arterial orifices, ~~and~~ which separates the internal and external membranes, being very thin, and appearing to be particularly obnoxious to rheumatism. He found, that in a certain number of cases of pericarditis and endocarditis, that one third of the former, and one fourth of the latter, existed in rheumatic individuals. Bouillaud claims to be the first who pointed out the connexion between rheumatism and the sero-fibrous inflammations of the heart; but Williams mentions that Sir David Dundas published a paper expressly pointing out the fact, and Dr. Wills has given ~~it~~ many illustrations of it.

This disease is a common secondary affection in pericarditis, occurring in at least three fourths of the cases according to Hope. Day thinks inflammation extends much more frequently from the pericardium to the endocardium, than from the latter to the former. Inflammation of the lining membrane of the heart is considered by Dr. Copland

as by no means rare even at a very early period of infancy, occurring as a primary disease, but oftener in consequence of scarlatina, small pox or measles, pneumonia, hooping-cough and rheumatism. With the exanthemata, it generally makes its appearance during convalescence, for the most part insidiously, but soon revealing itself by signs hereafter to be mentioned.

The anatomical characters of Endocarditis we may expect not to be so well defined as in inflammation of the other serous membranes, owing to peculiar circumstances, as the constant motion of the organ with which it is connected, and the continued washing by the blood, of the membrane, whereby the products of inflammation are carried into the general circulation, with the exception of a portion of the lymph which adheres in parts favorable to its concretion. These characters we may divide into two classes, first those connected with the earlier stages, as redness, softening, thickening, effusion of lymph or pus, ulceration, and the presence of coagula of fibrin in the cavities of the heart; secondly, those connected with the later stages, as

organization of the effused matter, and its after conversion into cartilage and bone.

Redness of the internal membrane may, or may not, be dependent on inflammation. Laennec, to see the effect blood had in staining, tied up a quantity of this fluid in a sound and recent aorta, placing it in the stomach of a subject that it might be in as near the same circumstances as possible, and found in twenty four hours a perfect specimen of the scarlet dye, which was not altered by repeated washing. He found that blood too firmly coagulated causes imbibition feebly and slowly; that blood half coagulated, and particularly that still slightly florid, which may be freshed out of the lungs, produces the scarlet redness: that very liquid blood, and particularly that with a serous intermixture, produces a violet colour of greater or less depth: and that if an artery be only partly filled, the dye occupies those parts alone which are in contact with the blood, thus forming a ribbon. If the walls of the artery are firm and elastic, the dye, he continues, "requires a long time (seventy or eighty hours) for its formation, and is never very deep; but if,

on the contrary, the walls are soft, supple, and charged with humidity, the dye promptly penetrates through the whole thickness."

This redness is somewhat general or partial, being more evident about the valves and orifices, where it is of a purplish or brownish tinge; whilst in the arteries, owing to the opaque white ground, it is a scarlet. This redness differs from the inflammatory in not being so general, and terminating by abrupt edges, the membrane being only stained where the blood could come in contact with it. It cannot be washed out, but after a few hours maceration will completely disappear. When the scarlet exists, it is more frequently confined to the membrane itself, whilst the brownish or reddish stain usually extends to the muscular structure, and even to the fibrous tunics of the arteries. This extension of the violet red, combined with softening, has been found by Louis in many cases of Typhoid fever, and is especially found in cases where a long suffocative agony has been felt before death, and where the blood seems thin, and evidently altered, and the signs of premature

decomposition existed, also when the subjects have been examined in summer, and in those opened more than twenty four hours after death.

From all these facts, Hope concludes that redness of the internal membrane of the heart cannot alone prove inflammation, and that it takes place during the agony when it is prolonged and suffocative, or after death when there is manifest alteration of the blood, or a somewhat advanced decomposition of the body.

The redness of inflammation may be of the same kind as the non inflammatory, it being still subject to imbibition. It is, however, more general, not appearing in spots or ribbon like bands, or terminating in abrupt edges. Andral says that it is of an uniform colour on both sides of the heart, whilst the redness from imbibition is deeper in the right side, owing to the venous blood. It is, however, when the redness is combined with thickening, the effusion of lymph, &c, that we pronounce upon the existence of endocarditis. It has been said that capillary injection may be discovered upon minute examination, which may be followed as far as the principal

trunks, they always participating in the inflammation. Foy mentions the indubitable inflammation of the great veins in the neighbourhood as proof of what you had some slight evidence of in the organ. The absence of redness, Hope considers, does not enable us to pronounce upon the non existence of inflammation, for in other serous membranes, when slight, it sometimes disappears after death.

Thickening may take place in any portion of the endocardium, but, like redness, is most obvious in the valves, they being composed of two layers of the membrane. In many instances they are infiltrated.

Effusions of lymph are found, though Hope says rarely, in the free surfaces of the cavities and the valves, occurring in the cavities as a pseudo-membranous formation, and in the valves in the form of fungous vegetations, so similar to syphilitic warts, that one of the older writers supposed them to be of that character.

Ulcerations of an acute character Hope considers rare. Williams speaks of them as not unusual; and Gerhard says they are by no

means infrequent at the valves, and sometimes take place at other portions of the membrane. When they occur at the valves, they frequently give rise to irregular vegetations.

Inflammation of the lining membrane seems to produce a tendency of the blood to coagulate in the cavities of the heart, in the same manner that inflammation affects the veins and arteries. The effused lymph and pus appear to form a nucleus, around which the solidification commences.

These coagula, found more frequently in the right side of the heart than the left, are very different from the polypi resulting from mere obstruction to the circulation, occurring in chronic cases where there has been great debility for some time before death. Bouillaud characterizes these latter by their softness, reddish or darkish hue, resembling currant jelly both in colour and consistence; while the former are white, colourless, elastic and glutinous, adhering to the walls of the heart, and twisted around the tendons of the valves and fleshy columns.

Of the second class of lesions in Endocarditis but a few words will be said.

If the cure is not perfect, that is, if complete resolution and absorption do not take place, we have the thickening remaining, and the complete organization of the vegetations, causing permanent valvular disease, which may lead to hypertrophy of the organ, and all the attendant evils. The inflammation, it is acknowledged, may produce direct hypertrophy. When the inflammation becomes chronic, Andral accounts for valvular thickening and stricture of the orifices by "a sort of law in pathology, that the circumferences of the orifices of communication of the different cavities of the body is struck by chronic irritation with more intensity than the other parts of these cavities. In this case may be enumerated the pylorus, the point of junction of the ileum and caecum, the neck of the bladder &c. Not only does this membrane become thickened, but it also becomes the seat of vegetations and various degenerescences. The portions of fibrous tissue which it covers are also thickened, and there, as in every part when it is attacked with inflammation, this tissue evinces

a tendency to pass to the cartilaginous or bony state." It may be supposed, then, that the valves and orifices are the most frequent seats of the vegetations, and the cartilaginous and osseous degenerations.

"It may be finally stated, that it is these ultimate organic changes, constituting incurable and often fatal disease of the heart, which renders endocarditis one of the most important and formidable diseases in the nosology."

The symptoms of endocarditis may be divided into general and physical.

The general signs are frequently very obscure. Decided pain is generally absent, and when it does exist, it may most commonly, always, according to Bouillaud, be referred to some accompanying inflammation, as pericarditis, pleurisy &c. There is, however, in all cases a peculiar uneasiness and oppression in the præcordial region, attended sometimes by an anxious, distressed countenance, the uneasiness and oppression, when evagula are present in the heart, amounting to the greatest distress — even syncope occurs sometimes. In severe

forms of the affection we have the general febrile symptoms. The pulse, however, is not in harmony with the heart's action. When the coagula have formed, being small, weak and intermittent, whilst the heart may have a violent and tumultuous impulse, though finally exhausted in its endeavours to rid itself of the impediment to rid ~~itself~~ the circulation, becomes feeble, and fluttering in its motions. In such cases we have "extreme anxiety of countenance, feebleness, jactitation, swimming in the head, syncope, &c; and, in the advanced stage, the venous circulation becomes impeded by the same circumstances, as is evinced by the bluish or livid colour of the face and extremities, together with an œdematous state of the same parts." Cerebral symptoms are sometimes met with, and great dyspnœa exists. These violent symptoms are very similar to those occurring in pericarditis with copious effusion, but the physical signs will very readily dispel any doubts as to which exists.

It is the physical signs that we most rely upon in diagnosticating endocarditis.

In the commencement, generally, the impulse of the heart is violent, and felt over a greater extent of surface than usual, regular as long as the circulation is uninterrupted, but otherwise, irregular and confused, and if the nervous energy be destroyed by the obstruction, it becomes feeble and fluttering.

The dullness on percussion is abnormally increased, according to Bouillaud, by the turgescence of the heart; but Hope doubts whether dullness ever exists while the circulation is unimpeded, supposing that it depends on coagula formed within the cavities. This dullness may be distinguished from that of pericarditis by the impulse in the latter being indistinct, more distant, undulatory, and not synchronous with the first sound: and if the effusion is great, by the dullness rising higher up the sternum than in endocarditis.

The most characteristic sign of endocarditis, it being seldom or never absent, is the bellows murmur, increasing in its intensity sometimes to such a pitch as to be rasping, in these cases frequently masking the sounds

of the heart. The second sound is sometimes accompanied by a bellows murmur, but is more frequently dull and indistinct, being annihilated when the organ is distended with coagula.

This murmur may be discriminated from that of hydropericardium by the other signs afforded by the latter; and from the friction sound of pericarditis, by this latter being more superficial - nearer the ear - by the rougher character of the friction; by the fact of the roughness, if it occurs with the second sound, being never produced by the valves; by the sudden change of character and situation of the friction sounds, the valvular murmurs changing little in their character, and not at all in their situation; and by the murmurs arising from the sigmoid valves being heard two inches or more up the aorta and pulmonary artery, where the friction sounds are mostly inaudible, also, the murmurs attending the auricular valves being loudest a little above the apex of the heart, whilst the friction murmurs may be loudest at the other parts wherever they happen to have originated.

It is unnecessary to give here the diagnosis as to which valve the murmur is produced by, as it belongs rather to confirmed valvular diseases.

Hope concludes his diagnosis by saying, "that this affection may be anticipated if a person be suddenly attacked with these signs: 1. Fever; 2. violent action of the heart; 3. A valvular murmur which did not previously exist."

The causes of this affection are the same as of inflammations generally - cold, febrile excitement &c. Undoubtedly the most frequent cause is rheumatism, it seeming to exist, as has been before said, in one half of the acute cases.

The prognosis is favourable if the disease has been early diagnosticated, and active treatment pursued. Otherwise the inflammation becomes chronic, and the probability of confirmed valvular disease occurring, makes the ~~treatment~~ termination extremely uncertain, if not unfavourable. The disease may terminate unfavourably within the first few days, when it seems to be caused by the formation of coagula within

It is necessary to give these the treatment as material for the consideration of specialists by, and to bring cases to confirmed tuberculosis diseases.

Mere consulter in hospitals by simply "the application from the institution" is a form to subtly attracts most these injurious. Here is a tuberculosis patient; and another insomnous which is not fit - mentally insane.

The course of the application are stations as implicitness actually - and, it is not sufficient to, literally the investigation - in reformation, it becoming terrible as the lives before and, as we hold the cancer cases.

The frequency is formidable if the hours have been lately thing unattended, and a certain treatment provided. Therefore the influence become chronic, and the probability of confirmed tuberculosis diseases recovering. Practice the ~~[illegible]~~ in medicine certainly necessitate, if not compulsorily, the hours among terminal consumptively patients. The first-fear drop rather it cannot be cured by the formation of some medium

the heart; but if the treatment has been judicious from the commencement, the patient is usually placed out of danger in four or five days, or a week, every sign of valvular lesion ceasing. Should the murmur continue for a week or ten days, the disease has passed into the chronic stage.

The treatment of Endocarditis, all writers agree, should be bold and vigorous in the early stages, and in all stages, provided the powers of the heart have not sunk.

Bloodletting, though in different degrees, is universally recommended. Bouillaud bleeds in subjects in the prime of life, a pound or more each day, for the first three or four, using in the intervals cups and leeches; which, with severe regimen, emmollient applications and warm baths occasionally, forms his ~~active~~ entire treatment in acute cases. Dr. Williams recommends moderate general bloodlettings, without making a sudden and full impression on the system, and as an equally important part, free and repeated local bleedings. Hope, whose treatment seems preferable, bleeds freely from a large incision, so as to bring the patient to the

verge of syncope, and, as soon as reaction commences, applies from 25 to 40 leeches to the praecordial region. Unless the symptoms are relieved, the leeching, and in some cases the general bleeding, are to be repeated at intervals of from 8 to 10 hours. He assists the bleeding with diluent, cooling drinks, and the most unstimulating diet - also with nauseating doses of antimony.

The sheet anchor of the practitioner, Hope considers Mercury. Giving it, after the first bleeding and free purgation, in doses of 5 to 8 grs. of Calomel, or, as less irritating, 10 to 15 gr. blue mass, three times a day, combined with a grain or half grain of opium to prevent purging - or when an impression on the system is wished to be made in less time, commencing with 10 grs. of calomel and two of opium, followed by 3 of calomel and one half grain of opium every three hours, which may be assisted by mercurial inunctions. A very apparent abatement of the symptoms is observed as soon as salivation is induced, though he does not believe that the good effects of the medicine are restricted to those cases in which the gums are touched.

When the disease becomes chronic, the most satisfactory results have been experienced by Hope from the mild use of mercury, employing at the same time a succession of small blisters over the praecordial region, and restricting the patient to the lightest diet, and the utmost tranquillity. Should this treatment be ineffectual, it is advisable to discontinue the mercury, though the other means may be used advantageously for several months longer.

After this, Endocarditis becomes confirmed valvular disease.

Apoplexy

Inaugural Dissertation
On
Apoplexy

Submitted to the examination
Of the Provost, Trustees & Faculty
Of Medicine
Of the University of Maryland

For the degree of
Doctor of Medicine
By
Robert S. Milhoe

Carroll County
Maryland
Anno Domini
1844

Apoplexy

An Inaugural Dissertation On Apoplexy

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On Apoplexy

Apoplexy may be defined a disease wherein Coma is an indispensable condition; wherein the nervous system is depressed, and sensibility consequently, more or less impaired – Voluntary motion and speech are invariably suspended;- there is laborious respiration. Stertorous breathing is generally observed, and is, not unfrequently, noticed as a characteristic symptom, but this depends on a supine position, in which the subject, may accidently fall, or be laid, by the attendants;– The organic functions are uninterrupted

Diagnosis

The manifestations of the pulse and respiration, afford a certain diagnosis in distinguishing Apoplexy, from Syncope and Asphyxia – In the former the pulse is slow, strong, and full, indicating venesection; respiration is much oppressed, always slow laborious, and frequently attended with stertor In Syncope and Asphyxia, the pulse is at its minimum, and sometimes wholly suspended; respiration is feeble and imperceptible – It is more difficult to

Applying

Applying may be defined as a chemical reaction form in an unfavourable condition; between the nervous system is affected, and consequently, more or less suppressed. Stimulating medicines and effects are invariably depressed; there is a serious reaction. Narcotics heating is generally observed and is not unfavourably noticed as a characteristic symptom, but this depends on a further question in which the subject may accidentally fall, or be laid, by the attendants. The organic functions are sometimes disguised.

Diagnosis

The manifestations of the pulse and respiration afford a certain diagnosis in distinguishing applying from epilepsy and hysteria. In the former the pulse is slow, strong, and full, indicating compression; respiration is much obstructed, slow, laborious, and frequently attended with stertor. In epilepsy and hysteria the pulse is at its minimum, and sometimes actually imperceptible; respiration is feeble and imperceptible. It is more difficult to

discriminate Apoplexy from intoxication and profound sleep - The first may be obviated by an inquiry into the habits of the patient with the smell of the breath. The second with all the attempts, by the usual means, to restore consciousness being nugatory

Symptoms

The premonitory symptoms which usher in this dreadful malady are many and various - They are those which indicate a preternatural determination of blood to the brain and vascular congestion - There is throbbing of the temporal and Carotid arteries; the veins of the head and neck are engorged; and the face is turgid and suffused A dull pain over the occipital bone with a sense of weight or tightness is experienced; dizziness; ringing noise in the ears; epistaxis; sparks and flashes of light before the eyes, a great duplicity of vision and transient blindness; stammering; confusion of the intellect, manifested by incoherent talking and failure of the memory; petulence; stupor; twitching of the muscles particularly of the face and eyes

Insurmountable difficulties from Interpretation and performance arise — The just mind to abstain by an inquiring into the truth of the position with the moral of the truth. The account with all the attempts by the moral means to make consciousness living morally

Glyn Johnson

The summarising of psychism which marks in this wonderful mystery as means and manner — Why are there which indicated a psychometrical determination of blood to the brain and reasoning conjunction. There is therefore of the temporal and creative activity; the brain of the friend and meets are engaged; and the face is turning and affected. A dull form upon the occipital bone with a power of insight or intuitive in appearance; displeasure; inquiring moves in the brain; physiologic; affects and flashes of light upon the eye a great sympathetic of brain and transient thoughts; transmitting; confusion of the intellect; immaterialism by increasing thinking and feelings of the memory; of feelings; depth; interfering of the nervous functionals of the face are upon

numbness of a member, it may be a finger; a diminution of the muscular strength of the legs: all characterize this disease

It is greatly to be deplored that the array of symptoms, above enumerated, all referable to an inordinate afflux of blood to the encephalon, do not present in a regular, determined order, nor continue for any definite period; more frequently the indications of the apoplectic attack are so sudden, and so quickly followed by this lamentable visitation, as to preclude and make futile the restorative aid of the medical art

A luxurious individual of indolent and sedentary habits, who delights in his alcoholic potations after a hearty and sumptuous meal, if he be in years, having passed the meridian of life, as to infer a morbid degeneracy of the arterial tunics by ossification, will generally be suddenly seized after his favorite indulgence with a fit, and terminate fatally in the course of a few hours — The precursory symptoms will be few and transient — They are pain and weight in the head, dizziness, spasmodic pains in the epigastrium

with nausea and vomiting, interrupted respiration, and profound coma. He lays motionless, the senses all suspended; face turgid and livid; eyes heavy, red and watery, the pupils rigidly dilated or perhaps permanently contracted; jaws clenched, the angles of the mouth drawn aside, while "a frothy saliva is excreted from the lips with a sputtering noise"; respiration is attended with stertor; the pulse first languid and irregular, becoming slow, full and tense; the distribution of the animal heat unequal; and the body may be covered with a profuse clammy sweat. The features of a fit are not always so aggravated as the above ideal description. We have the power of administering medicines, in many cases, by the mouth, the jaws being retracted, and the action necessary in swallowing not impaired. The temperature of the surface is usually unequal, sometimes, however in very moderate cases, it differs, but little from the natural standard. Stertorous breathing, as before remarked, is not always present, but depends on position. Slow laborious respiration an accompaniment.

Hemiplegia, which depends on some previous diseased state of the brain, is the first symptom we may have of apoplexy, and not unfrequently, is the cause of the patient being suddenly stricken to the earth. The invasion may be by a state resembling syncope, from which, in a few minutes they recover consciousness and converse. They complain of giddiness and the many impressions arising from the rush of blood to the head: a weight or tightness over the forehead with severe lancinating pain till finally, the symptoms having increased in violence they fall into a state of confirmed coma.

The symptoms denoting vascular engagement of the cerebral mass, are sometimes promptly mitigated by a discharge of blood from the nose, or by the return of some previously suppressed evacuation, consequently preventing a very serious and formidable disease.

I have mentioned Hemiplegia, as an antecedent. It is

also a consequent of apoplexy - Paralysis of some description, a muscle or a member, is the most frequent termination - They may remain for weeks, months or years and not uncommon permanently palsied. The first variety is more to be lamented from imbecility of mind, with its horrid degradation, or idiotcy, being a consecutive to this distressed condition of the sensorial powers - The apoplexy may terminate in fever, and by skilful energetic treatment in the entire restoration of sense and voluntary motion - A complete recovery. A subsequent attack is, however, always to be apprehended, if they have the peculiar corporeal frame, if the subject is an epicure, or if their occupation predisposes to an inordinate determination of blood to the head, or presents an impediment to its return to the heart

Prognosis

When we reflect that the current of the blood returning by the veins, moves sluggishly towards the heart, that the arterial tubes are nearly

also a consequent of depleting. Paralysis of bone alienation, a result or a measure is the most frequent termination. Only many nerves for weeks, months or years are not unfavorable. Immunity for life. The first result is more to be lamented from authority of results with its loss, deprivation, or idiocy, being a consequence to this distinct condition of the diseased nerve. The depleting may terminate in pain, or by painful surgical treatment in the entire relaxation of nerve and returning motion. A complete recovery is frequent effects in herpes, always to be expected however, if the pain ceases. Paralysis continued from the pain, is an effective, only also recuperation. Paralysis is an unfavorable determination of pain to the head, a pleurodynia or inflammation to the relations to the heart.

Diagnosis

When we reflect that the consent of the heart returning by the nerve, nerve diagnosis towards the heart, that the relations being unnecessary

bereft of their inherent buoyancy as we advance in old age, becoming fragile from a degeneracy of their tunics, and that the decline of life is the period, from these and some remote predisposing causes, in which we are obnoxious or peculiarly prone to apoplexy, the inference appears natural, that the prognosis must be, and is, extremely unfavorable - We must not despair, however untill the eyes cease to respond to their proper stimulus - We may consider it determining favourably, when the pulse is natural, the temperature of the body equable, the memory steadily improving, the patient conscious of his situation and passing stools and urine easily

It is unnecessary to dwell longer on the prognosis, as the preceding pages mark prominently, the curable from the incurable cases

Causes

They are divided into the predisposing exciting and proximate -

The predisposing may be enumerated thus - First:- Heritary predisposition; then

of a short stature; square shoulders; ample chest; short thick neck; from comparative shortness of the vertebral arteries; florid complexion; large head; and protuberant abdomen; have been remarked from time immemorial as the peculiar apoplectic conformation. They who have been attacked with Phrenetis, & maniacs, frequently become the victims of this malady. Second: extraneous causes. Indolence conjoined with excessive sensual indulgence; sedentary life with intense mental application, as the inveterate student. They, who are accustomed to active exercise or laborious duty, relinquishing their occupations for a life of luxury and ease. Tall persons with long necks, though not very susceptible, yet they are not entirely exempt from this disease. It may be developed, in them, from any of the above circumstances. The fit is not generally marked with the aggravated features, and in them, it sooner yields to the Physicians skill. Lastly age may be mentio-

of a that [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] of the [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible]

med, this disease seldom supervenes before the thirty fifth year

Exciting causes:

Any violent agitation of the frame, increasing the vibration of the heart, the momentum of the circulation, propelling the blood with augmented impetuosity to the vessels of the brain, as the vehement passions - Long continued or embarrassed inspiration, from forcible straining to move a weighty burthen or to evacuate a costive stool; incessant sneezing; immoderate laughter; a fit of coughing; strenuous efforts in declaiming; inhaling small quantitys of mephitic gases; the depressing passions; cramming the stomach particularly if the ingesta be grossand indigestable - Any inclination of the superior extremities with the head depending, favouring the gravitation of the blood to the encephalon, or such an attitude increasing the tension of ligatures, especially a cravat facilitating congestion by retarding the transmission of the blood to the right auricle of the heart; Tumors

and the mere action superseded the
truly fatal upon

Operating causes:

The vital agitation of
the pneumo, increasing the activities of the
heart, the innervation of the circulatory apparatus
pulling the blood with augmented impul-
sivity to the periphery of the brain, as the
inhibitory ganglia - being constricted or
constricted vasomotor fibers of vital
shortening to cause a rapidly diminishing
or to produce a contrary effect, respiratory
changing; immediate hemorrhage or the
of coughing; pleurisy effect in diminish-
ing: including general quantity of respira-
tory gases; the depressing influence; concur-
ring the altered particularly of the
organic by gases and inorganically - the
vitiation of the oxygen equivocate
with the heart depending forcing
the circulation of the blood to the sys-
tem, or heart or arterial increasing
the tension of the pulmonary capillaries
cause possibility congestion by retard-
ing the transmission of the blood to the
right cavity of the heart's chamber.

are deleterious from the same circumstance
Lastly, variable temperature, sudden transition from heat to cold and vice-versa

Proximate Cause:-

Apoplexy originates from the vis-a-tergo of the heart acting on a previously congested condition of the veins - The momentum of the heart, and excitement of the arteries, incapable of surmounting the resistance of the veins, are relieved either by an effusion of blood, or serum; or by rupturing their coats, the contents are extravasated through the substance of the brain - The effused fluids compressing the molecules of the brains, or lacerating its substance will develop apoplexy - The premonitory symptoms give no evidence of the patholog. condition - If no trace of diseased action or disorganization exists, in the brain or its meninges, after death, the fit must be ascribed to a disturbance in the equilibrium of the circulation

Post Mortem:-

After removing the skull cap, and dividing the integuments, our

are deflections from the same circumstances
death, mental depression, sudden tumult
or from fear to cold and nervous
Pericardial tension:-

Palpitating symptoms
from the pressure of the heart acting on
a previously congested condition of this
vein - The pressure of the heart and
enlargement of the cardiac cavities of
surrounding the pressure of the veins, are
relieved either by an effusion of blood or
serum or by rupturing their coats. The
Cardiac or pulmonary veins through their
tributaries of the venous - the symptoms
plainly complaining the particulars of the
heart, or developing all deformities with
cardiac palpitating - The pressure by up-
lifting gives the sensation of the palpitat-
ing - of the tone of diseases ac-
tion or disturbing causes, exists, in the
heart or its membranes, after death, it
fly must be regarded as a disturbance
in the equilibrium of the circulation
Post Mortem:

After removing the thorax
cap, and draining the enlargements, are

attention may be arrested by a discharge of blood from the congested veins: The brain and its membranes, altered from their normal condition, and presenting diversified shades of variation - The following are the morbid appearances revealed in dissection - The Dura Mater thickened and adhering to the cranium - The Tunica Arachnoidea having lost its translucent appearance - The Pia Mater exhibiting unusual vascularity from turgidity of its vessels, the surface of which, is of a bright red colour or punctuated

The brain is of a preternatural firmness, and its vessels engorged with blood;

The ventricles dilated and distended with serum - Sanguineous extravasation may be partial or general, and no serous effusion observed - The Cerebral mass is generally broken down and sinuses are found throughout its substance, containing more or less coagulated blood - The usual seat of the sanguineous reservoir, is the Corpus striatum, or Thalami nervorum opticorum, being internal cerebral ganglia -

a lantern may be mounted by a clockwork
pulley from the completed mains. The
mains and the numerous collateral from
this, namely contribution, and pneumatic
structure, placed of mountain. The pulle-
ty are the numerous appearance in the old
in observation. The Sun. Moist. Mechanic
and following is the examination. The
Tunnel Mechanic having left the tem-
ment appearance. The fire market exhil-
iting numerous pneumatically from tropical
city of the region, the surface of nature, is
of a height not certain or pneumatically
The mains is of a pneumatical fin-
ish and the region employed with them.
The mountain distinct and distinct
with power. Clamping appearance
then may be placed a general,
and no more effusion observed. The
Cuthar prop is generally having stem
and branches or power throughout its
buildings, continuing more or less
complicated flow. The usual set of
the homogeneous mechanism is the corpus
alimentum, a Mechanic pneumatic platform
having internal cerebral gymnasium.

All the symptoms characteristic of Apoplexy may be present during life, and after death, no evidence of disorganization, or previous disease can be detected by autopsy; the structure is of a healthy aspect and the vessels empty and collapsed

The equilibrium of the circulation having been disturbed, caused the disease, and the interum sufficiently long, between death and dissection, permitted the subsidence of the blood

Treatment

The initial symptoms should be combatted with venesection, and other antiphlogistic measures. A moderate quantity of blood, abstracted when the attack is approaching, will be more efficient than four times the quantity taken when it has supervened. On its accession, the patient, should be taken to a cool room, placed in bed, his head and shoulders should be elevated. All ligatures encircling the neck, should be instantly loosed, in fact; he may be denuded of his clothes to remove all a any impediments of the

All the symptoms characteristic of Typhoid fever in personal cleaning, life, and effective health, no evidence of cleaning room attendant or previous disease can be detected by autopsy and the attention is so thoroughly confined and the typhoid symptoms and complaints

The appearance of the convalescent having been doubtful, cannot the discovery, and the unknown sufficiently long returns death and depredations permanent effects subsequent of the fever.

Treatment

The initial symptoms should be combatted with venesection, and the antiphlogistic measures - and moderate quantity of blood abstracted when the attack is sufficiently small to be taken effectively, and then the quantity taken rather at the supervention - the accession, the particularly should be taken to a cool room, placed in bed, his head and shoulders should be elevated. Still by cities involving the neck, should be constantly bathed, in fresh water having the clothes to remove all or any unpleasant of the

circulation. The first indication of relief, is to lessen the quantity of the circulating blood, and to remove venous congestion

The French Pathologists employed leeches and cups for this purpose - It is now acceded, however, by the modern practioners generally, that cups and leeches should only be used as auxilliaries to general depletion - The object is to abstract blood copiously in a given point of time, the manner how, or from whence it is drawn, is of little importance - The first application for blood is to the arm, a large orifice is made, but the effort is often ineffectual; both arms may be suffered to flow - If the intention is yet defeated, Arteriotomy may be practised on the Temporal artery or its branches; aided by an exhausted cup placed over the orifice a desired quantity may be obtained

The condition of the blood or the quantity, is of little regard, the mitigation of the symptoms is the great desideratum - When organic Cardiac disease is suspected, to be complicated

circulation. The final conclusion of reason, is to learn the generality of the corresponding phenomena, such as various compositions.

The Remark Pathological anatomy leads such cases for this purpose. It is more accurate, however, by the previous general pneumatic, that cases and lively phenomena only be used as auxiliaries to general definition. The effect is to substract either exclusively an a priori point of view, the manner there, or from nature, it is a drawn, in a little independence. The public application for theory is to the same a large origin, is proper, but the effect is often insufficient; this seems may be supposed to have. If the intention is just determined. Diseases may be practised on the Symptoms order or the treasury; notes by an intended cup picture over the origin a defined generality may be obtained.

The connection of the theory or the generality, in a little superior, the quality - ation of the implication is the great re - lationship. When organic functions diseases are supposed, to be general diseases

with Apoplexy, judicious venesection is necessary, but caution must be observed lest syncope be induced, a condition wherein the heart may be incapacitated to resume its wonted functions

Having moderated the character, and diminished the quantity of the circulating fluid, the next indication is to determine the circulation from the superior to the inferior extremities Refrigerants should be recommended to the shaven scalp, pounded ice, in a bladder is the best, and rubifacients to the ancles, or stimulating frictions assiduously employed - The bowels are generally in a torpid condition Suitable cathartics should be administered to stimulate the intestines, and unload their accumulated contents - The mere presence of indurated feces is sufficient to occasion a plethora of the vessels, and occasion head-ach - Active purgation is a depletory process, by exciting the intestines to an increased secretion of serum - Calomel combined with

with [illegible] production necessitous is necessary, but [illegible] must be observed the [illegible] be [illegible], a condition without the [illegible] may be [illegible] to [illegible] possible [illegible]

The [illegible] [illegible] the [illegible] and [illegible] the [illegible] of the [illegible] [illegible] is [illegible] to [illegible] [illegible] from the [illegible] of the [illegible] [illegible]

[illegible] [illegible] [illegible] [

Colocynth is that which is generally advised followed by saline cathartics - If the powers of deglutition are impaired, two or three drops Croton oil may be given - When the muscles are palsied, a stomach pump can be introduced either through the nose or mouth, and the purgatives injected - Along with the foregoing means injections composed of purgatives, a solution of Jalap and Epsom salts, may be frequent-thrown into the rectum -

The fact that Emetics are known to have produced Apoplexy, in strong corpulent habits, should forbid their employment - They are advised in cases occurring after a meal - A copious depletion from the arm will often vomit the patient - They are not admissable, nor will they tame the action of the heart

The late Dr Potter says, we can use them in no case a subject, even if a man should eat so much, that we could touch the food with our fingers -

We must resort to prophylactics measures, in persons bearing

Photography is that process in generally understood by science [illegible] of the production on any surface, [illegible] image [illegible] by the agency of light. [illegible] the necessity on photography is [illegible] from the introduced [illegible] through [illegible] [illegible] [illegible]

the impress of apoplexy, from peculiar conformation of body, or from any of the predisposing causes, a fertile one of which is, as heretofore mentioned, a life spent in equal intemperance and indolence - When we anticipate it from a debauchee, it is of the utmost consequence to restrict him to a rigid regimen - In Dyspepsia, if the patient adheres implicitly to his physician's advice, as regards diet, more than half the horrors of that miserable malady are conquered - How assiduously should one threatened with Apoplexy adhere to the preventatives, when we reflect, more than one fit seldom occurs, and that hurls the stricken victim, "to the bourne from whence no traveller returns -

They should guard against vicissitudes of temperature by wearing flannel next the skin - In winter, they should not only be comfortably clad, but keep their feet warm and dry - Supper should be sparingly partaken, no wine, coffee, or any

the impossibility of applying, from the evolution
consciousness of beauty, a form any of
the appetite-seeking consciousness, a particle one
of nature is, as the lofty aspirations, a
high object in a form unintelligence
and intellectual. - When we contemplate it
from a detached, it is of the utmost
consequence to restrict him to a right
region. - The Hypothesis, if the phenomena
actions implicitly to his physiognomy -
nic, as we and that, more than that
the heavens of that mysterious metaphysics
are compared. - Those objectively
should our theories with Physiology
actions to the phenomenalistic, when the
right, more than our fit palaces
occurs, our what hands the activities
restitution" to the house from nature
are transfer returns -

Why should power of point
possibilities of transversion by meaning
formal part the state - In nature,
the should not only be comfortably
clear but keep time just from our
day - Utopia should be appropriately
pollution, no means, capacity or any

stimulating beverage or aliment permitted; should drink only water, and eat a moderate quantity of bread — The comforts of a feather bed should be discarded and a hard matrass substituted — The condition of their bowels should be soluble and carefully avoid constipation — A seton or issue in the neck is a valuable prophylactic mean — Exercise on horse-back is recommended, but walking is acknowledged to be better — Riding a hard trotting horse will bring on Apoplexy in a sailor, hence the cogency of interdicting such pleasures, especially to the intrepid sons of Neptune; they should be advised to return to the sea — If the predisposition is from a life spent in luxury and ease, diminish gradually the quantity and quality of the ingesta; abstemious living is of the first consequence —

administering drugs or alimentary substitute; should claim only results, and not a moral or personality of treatment. The complete of a function that should be discovered and a hard practicable substitution. The conditions of this should admit to a strictly and certainly moral constipation. A person or plan in the mind is a natural physiologic fact mean. Opinion or hearsay-truth is recommended, but nothing is certainly physiologic to be taken. Finding a few treating have with living or physiology in a series, there the coupling of intermediating truth physiologic appears to the intrinsic form of treatment; they should be endeavor to return to the man. If the physiologic position is from a life plant in living and man, diminish practically the personality and personality of the integrate; abstinence living is of the final consequence.

An
inaugural dissertation on
Phthisis Pulmonalis.
Submitted to the examination of the
Regents and medical faculty
of the
University of Maryland,
for the degree of
Doctor of medicine
by
James E. Bacon.
of Maryland
1844

Phthisis Pulmonalis

"There is a dread disease which so prepares its victim, as it were, for death, which so refines it of its grosser aspect, and throws around familiar looks and unearthly indications of coming change, a dread disease, in which the struggle between soul and body is so gradual, quiet, and solemn, and the result so sure, that day by day, and grain by grain, the mortal part wastes and withers away, so that the spirit grows light with its lightening load, and feeling immortality at hand, deems it but a new term of mortal life, a disease in which death and life are so strangely blended, that death takes the glow and hue of life, and life the gaunt and grisly form of death; a disease which medicine never cured, wealth warded off, or poverty could boast exemption from — which

sometimes comes ~~in~~ with giant strides, and sometimes at a tardy sluggish pace, but slow or quick, is ever sure ~~or~~ and certain."

The above quotation, is selected more for its beauty and the celebrity of its author than for its truth, The light that has been thrown upon this disease through the medium of pathological anatomy, serves to show the fallacy of that opinion which supposes it to be incurable, and to rob in part of its terrors this prevalent and ~~and~~ oftentimes fatal malady, to inspire with well founded hope, its too often hope deluded victims, and to ennable the medical philantrophist to foresee the evil he has to encounter, and occasionly to check the ravages of this bane of human life.

There is not in the catalogue of human ills, a disease so undescriminate in the selection of its victims or that has cause

to flow more abundantly tears of better regret, or one more to be deprecated for its universal prevalence, than tubercular consumption, no clime, nor country, no age sex or condition from it can claim exemption, all own its dominion and fear its presence.

Consumption consists of a deposition of grey granulations, or of tuberculous matter (both of which may exist seperately) on the serous or mucous tissues, of the lungs there is another condition called tuberculous infiltration, which condition is supposed to be the result of the two former, not differing from them in its chemical properties, but merely in the manner of its deposition.

The granulations vary from fluidity, to the consistence of cartilage, depending upon the rapidity with which its more fluid parts are absorbed, their fluidity decreasing as absorption increases, they vary from the size of a mustard seed to that of a pea, and are composed of

albumen, with varying proportions of gelatin and fibrin, these depositions act as foreign substances, producing local irritation and inflammation in the surrounding pulmonary structure, which give rise to cough and an acceleration of the pulse, two almost invariable symptoms of this affection; when these granulations are numerous so as to prevent the free ingress and egress of air, dyspnoea will also be an accompanying sign, these granulations after a time begin to lose their transparency and consistence, and becom white, opaque, and friable, these alterations may commence in any part of these granules indifferently, and go on in their transformation until they result in what are called crude tubercles, of a cheesy consistence sometimes increasing to the size of a small walnut.

The irritation produced by the

presence of granlations, causes a secretion from the surrounding tissues, which secretion induces the changes through which the granules pass.

The apices of the lungs seem to be the parts in which these deposites first take place, a little more frequent however in the left, than in the right lung, during the changes which are taking place in those granules, which are first laid down, others continue to be deposited, gradually descending from above downward, so that those which were first deposited may have gone through all their changes, and have been expectorated, leaving excavations in the upper part of the lungs whilst in the lower portion, the granulations may be in their semi transparent form.

Sanguineous congestion is always a consequence of the presence of tubercles, its intensity depending upon the quantity

present; thus tubercles by producing local inflammation increases the activity of the heart and arteries, and are at the same time an impediment to free circulation, they thus become the causes of the so frequent occurrence of hemoptysis.

This disease has been divided into three stages, we are not however to suppose that a line of demarcation can be drawn, by which we can with precision mark the limits of these conditions; or that they exist seperate and distinct; for they insensibly run into each other and exist simultaneously, that is the lung in one part may be in that state which, gives rise to the symptoms of the first stage, whilst in other portions there may be those conditions which give rise to the characteristic symptoms of the second and third stages.

It depends upon the degree of

severely whether we have the symptoms well marked or obscure. and it is of the utmost importance that we should be careful in our diagnosis in the first stage, for this with a few exceptions is the only condition in which we can by our remedial means hope to affect any permanent relief; this stage comprehends the time from the deposition until the suppuration of the tubercles. the symptoms which mark it are very variable. all of them being present very seldom. there is generally present cough either dry or with frothy expectoration, acceleration of the pulse and hurried breathing. as long as the granulations remain dormant the cough will be slight, occurring chiefly in the morning; tightness and pain in the chest are sometimes present with chillness followed by heat of the

skin, particularly in the palms of the hands and soles of the feet, the countenance of the patient becomes paler and there is a slight degree of emaciation; at this time the physical signs are not of much avail, unless the tuberculous deposit be very great, when upon percussion the sound will be duller than natural over the diseased part, unless the vesicles around the deposit have become emphysematous, in which case we may be deceived and take the diseased for the more healthy portion but if we examine more closely says Dr Clark "we will discover a dull spot,"

If we apply the stethoscope over the tubercular deposit the sound will be less soft and the resonance of the voice greater, on inspiration the diseased side under the clavicles will not rise as free as the opposite these symptoms become more

marked as the disease becomes greater.

In the second stage the foregoing symptoms become aggravated, with a remarkable change in the expectoration, that which at first consisted of frothy expectoration now contains specks of opaque, curdly matter, of a yellowish colour, which seems to float in the frothy portion; there is also streaks of blood sometimes seen.

Hemoptysis which when it does occur is useful as a diagnostic in the first stage now becomes frequent and copious, it is a consequence as has already been stated of the presence of tubercles which impede the circulation. generally it is an effect and not as some suppose a cause of consumption except perhaps in a few instances, it occurs more frequently in phthisical females, than in males, and in them particularly after that period at which the catamenia cease, in males it

occurs indifferently with regard to age.

Hemorrhage is not always a symptom of the presence of tubercles, for it may arise from mechanical injuries, from the cessation of the catamenia, or from over exercise whilst the lungs are in ~~the~~ a plethoric condition: but when it does occur after the long continuance of cough it is a pretty sure indication of the presence of tubercle

Hectic fever which in the first stage often escapes observation now becomes established, it varies however throughout the disease, being modified by the accidental diseases which so often complicate this affection, the first febrile symptom which the patient experiences is chilliness in the evening, its severity increasing with its recurrence, these chills are followed by heat of the skin during the night. which is superseded by

morning perspirations, this is not an invariable symptom but when it does occur we generally have diarrhoea making its appearance, which exercises a deleterious influence upon the patients strength, the evacuations are of a yellow bilious colour.

Physical signs in this stage are very useful, we should with care and as little ceremony as possible examine the respiratory movements, the more diseased side of the lung (and one side is always more diseased than the other) will not raise with the same freedom as the opposite, and will present a sunken hollow appearance, if both are extensively implicated, the respiration will be carried on more through the agency of the abdominal muscles, than by the intercostal and those other muscles of the chest, usually concerned in respiration.

The sounds elicited by percussion

are various in various portions of the chest, over a healthy part the sound will be clear and hollow, but over the tubercular deposit it will be dull and solid, we should percuss on corresponding sides of the chest and note carefully the difference. if we use auscultation in conjunction with percussion, we will be better enabled to form a correct diagnosis. the natural vesicular murmur diminishes as the deposit increases, and is rendered more bronchial with increased resonance of the voice.

There is a morbid condition of the mucous membrane produced by repeated attacks of catarrh, and an emphysematous condition of the lung, which may lead to the belief that it is consolidated, these errors may be corrected by percussion the sound in the first ~~place~~ case will be natural in the second tympanitic

that sunken appearance of the thorax will not be usable, but if there is emphysema the chest will be elevated. pectoriloquy is often heard in the second stage of this affection. about the scapular and clavicular regions, its absence in these two conditions will be a negative evidence of the non existence of tubercles.

The colliquative or third stage so called from the copious perspiration the diarrhoea and the abundant expectoration with which it is attended; the perspiration which attends this disease in its earlier periods now becomes very profuse, and is indicative of a speedy death, diarrhoea although found in the other stages is more frequently reserved for this and is attended with pain which is very distressing. The expectoration is of an ash colour with a mixture of whitish fragments, these are expectorated

in rounded looking masses enveloped in a transparent ropy portion, the specific gravity of these masses is greater than water and will sink if thrown into it. this ash coloured sputa is very unfavourable as a prognostic sign, patients are said never to recover after it has made its appearance, its odour is very fetid. As the final termination draws near it diminishes or entirely disappears, expectoration although a very common symptom, is not invariably present: and there are other diseases which give rise to nearly the same kind of sputa, which renders this alone a doubtful symptom, near the close of the disease the feet and legs become oedematous it is not always confined however to the feet and legs, it extends to the arms lungs and the glottis, the chest becomes flattened the shoulders and clavicles prominent leaving a hollow

leaving ~~a~~ between them and the upper ribs. Percussion gives a sound not so dull as in the second stage owing to the excavations in the upper part of the lungs the stethoscope shows more clearly their condition in some places the respiration is inaudible in others obscure whilst in other parts it is clear, but having the characters of bronchial and cavernous respiration, pectoriloquy is generally present the mental with the physical energies become enervated, and at last the patient sinks indulging in the hope of recovery to the ~~last~~ end

Consumption during its course becomes complicated with various affections, which give rise to symptoms for which we could not account, if we did not understand the nature of these complications, which sometimes become

so prominent as to hide from the in accurate observer the more dangerous malady, among these are pleurisy ulceration of the different parts of the respiratory apparatus, diarrhoea, diseases of the liver, and stomach. during consumption an effusion of coagulable lymph takes place upon the pulmonary pleura, with adhesions between it and the costal pleura, these adhesions are very common and correspond with the tubercular deposit, or with the excavations that are formed by the expectoration of the tuberculous matter, the pleura is sometimes perforated, when air and purulent fluid escape into its cavity which gives rise to acute pleurisy, which often terminates fatally in a very short time. There is sometimes a communication formed between the the bronchial tubes and the pleural sack

which occasions great dyspnoea ~~which~~ and proves fatal by impeding respiration.

Ulceration of the epiglottis and larynx generally appear in the advanced stages of consumtion; but occasionally the latter is manifest before the existence is suspected, and is so grave in its character, after consumption has become developed, as to lead to the belief that it is the chief seat of the disease.

"Softening of the mucous membrane of the stomach, hyperaemia of the different portions of the intestines, ulceration of the small intestines, accompanied in many instances by a developement of tubercles, are all of such frequent occurrence in phthisis, that they may be fairly considered as constituent parts of the disease"

When we have epigastric pain

with vomiting loss of appetite thirst and nausea. we may consider them as indications of inflamation of the mucous membrane of the stomach.

Ulceration of the intestines frequently takes place in the lower portion of the ~~intestines~~ ileum opposite the attachment of the messentary in the glandulae agmenatae of which intractable diarrhoea is a symptom.

Diseases of the liver are very frequent concomitants of this affection, it consists of a remarkable transformation into a fatty substance, this alteration is not marked by any appreciable symptoms, except the large size to which it sometimes increases, its consistence ~~increases~~ diminishes and it becomes of a fawn colour

Phthisis sometimes runs its

course in a few months at others continuing for years, the average duration is somewhere between eighteen and twenty four months.

There are two classes of causes of this affection the predisposing and exciting neither of which is often adequate to the production of it, for generally a combination is requisite to develope the disease, by a long continuance however of the exciting causes they may produce it.

Hereditary predisposition is a settled point in the etiology of this disease, ~~x~~ parents labouring under consumption transmits to their children a predisposition to its development and this is not the only condition of the parents which entails upon their children a susceptibility to phthisis

any cause that weakens the constitution or destroys the health of the parent, may produce it; such as disordered state of the digestive organs, the injurious influence of mercury, debility from sickness or age, dyspepsia.

A tuberculous cachexia may be induced in children, by improper nourishment or diet in improper quantities want of exercise by being confined in close and ill ventilated appartments where the air is impure, in such cases the countenance will become pale the glands of the neck will swell, and the bowels become disordered.

Those are called exciting causes which excite or develop the disease. under this class head may be classed all influences which tend to deteriorate the health the most

powerful of these are innutritious food, impure air, improper clothing, defecient exercise, ~~defecient~~ excessive labour, the abuse of ardent spirits, and long continued bronchial irritation.

Those occupations in which persons are constantly inhaling pulverulent particles of an irritating nature, are fructful sources of consumption, among these are needle pointers steel polishers metal grinders and stone masons they are constantly inhaling fine particles which act as irritants to the lungs and by long continuance the predisposed, and then excite the disease, which proves fatal early in life, but few living until fourty. the mischief is no doubt produced by the acute edges and points of the particles affecting first the mucous membrane

of the nose and causes it to discharge copiously. next the trachea and the larynx become diseased, and lastly the lungs, thus phthisis is induced.

All those employments which require sedentary habits and in which these ~~employees~~ operators are compelled to forgo the benefit of fresh air, are prolific sources of the disease.

A. climate that is cold damp and variable is favorable to the development of this disease. it acts not only as a predisposing but as an exciting cause. great heat is said to act as a predisposing cause. mild climates are least favourable to its production.

Sex seems to have no determining influence in consumption it is said however to occur a little more frequently in females than in males

this is not the result of the influence of sex, but depends upon their habits and modes of dress their habits being more sedentary and their dress more thin.

Scrofulous patients are more liable to this disease than those that are not of this habit, the deposition that produces phthisis, in scrofula is poured from the extreme vessels into the bones and external glands. Phthisis may exist without scrofula and scrofula without phthisis

Treatment in those infants that are supposed to be predisposed to consumption we should be careful with their general health. the child should not be suckled by the mother. if it take the predisposition from her, but by a young and healthy nurse. of the predisposition come from the father, the mother

may suckle (provided her health be good) from twelve to eighteen months children should have no food before the sixth month after that it should be of a light nutritious character in small quantities. they should be bathed in warm water very often, as they grow older cold bathing during the summer months should be practised, loose warm clothing is very beneficial, particularly on the head and lower extremities, the bed rooms should be large and airy, for pure air is very serviceable as a prophylactic, for this reason the country is preferable to the city, but even there a dry situation should be selected. As these children grow older their food should be increased in strength but never so as to produce any disorder of the bowels if the patients

become greedy and the bowels do not act regularly immediate attention should be paid to their correction. Children should not be restrained in bodily exercise. free exercise in the open air in favourable weather for male and female children is one of the most important indications in the treatment of tuberculous cachexia, it gives tone to the digestive organs, strength and vigour to the muscles, and tends to strengthen both mind and body, and thus avert the impending danger, under all circumstances care should be taken to preserve a comfortable temperature of the body, with cleanliness. As the patients advance to adult age they should frequently expand the lungs by deep inspirations, not so far as to produce pain. Dr Clark recommends the arms

to be thrown backwards, and to inhale as much as they can, this is to be repeated at short intervals, several times in succession; free but not laborious exercise is useful: when it becomes laborious it increases the action of the heart and arteries and instead of mitigating it aggravates the disease

In the treatment of pulmonary consumption we should not forget the important indications which the nature of the disease seems to point out, it will be recollected that in describing the disease it was stated that the presence of tubercles produces sanguineous congestion and inflamation, the best means for subduing inflamation and reducing the sanguineous congestion is blood letting, six to twelve ounces should be drawn

the exact amount to be regulated by the circumstances of the case, it is to be repeated at longer or shorter intervals, as may be required, we should be very cautious however in the use of this remedy, for there is danger of prostration, which may hasten a fatal termination.

Emetics hold a conspicuous place in the class of remedial agents, by preventing it is said, the deposition of tubercles on the mucous surfaces of the lungs, and equalizing the circulation, in the early stages they may be used once or twice a week, where they are not contra indicated by the presence of gastric irritation, the sulphates of zinc and copper in such quantities as to produce gentle emesis are useful, in those cases in which their continued use is indicated ipecacuan is the best

Iodine is sometimes very useful in the incipient stages of this disease, it promotes the secretion of the liver kidneys and skin and thereby reduces the plethoric condition of the system it should not be given when the digestive organs are in an inflammatory condition, or when there is irritabilety of the nervous system.

Cupping and leeching have been used with benefit particularly in those cases where we have reason to believe there is pulmonary congestion and the patients health will not admit of general bleeding. Blisters are serviceable where there is pleurisy complicating the disease not however till bleeding has been practised, and febrile excitement has been allayed. There are many other important remedies in this affection

among these are reading aloud, the proper selection of a profession, the use of antimony, alkalis, issues and setons the proper application of which depends upon the knowledge an judgement of the practitioner

The beneficial influence of pure air, and the evil tendency of a cold, damp, and vareable climate, have been mentioned, to reap the benefit of the one, and to avoid the evil influence of the other, patients, in the incipient stages consumption, may remove to a mild, and healthy climate, where by attention to their general ~~health~~ for one or two years they may return in the full enjoyment of health.

An inaugural dissertation on Arnica Montana.

Submitted to the examination of the Prevost — Regents and Faculty of physic, of the University of Maryland.

For the degree of Doctor of Medicine,

by

J. W. C. O'Neal

of

Taneytown Carroll County Maryland.

1844

To

Horatio G Grieves M. D.

This feble effort, is inscribed.

As an acknowledgment of the high esteem entertained for his talents and virtues.

By his obleged friend

The Author

The human body is a collection of organs, which compose the frame. In viewing its construction we are led to the consideration of the principle by which it is kept in existance, and of the means by which it may be preserved. — — —

extravagancies of Homopathy, then that lack of judgement, want of quickness in penetration and sagacity which so much distinguishes the successful practitioner would be overlooked and considered with indifference.

Whilst for the general good and the continuation of human life we might hope that this was the fact, yet, for the elevation of the profession for the improvement of the science, we are well satisfied, that it assumes a more elevated position, and gives an opportunity for the exercise of that presence of mind, largeness of thought, enquiry, penetration and sagacity — which so distinctly points out the successful practitioner. — — —

When we look at the history of the past, and perceive with how much tenacity our ancient fathers adhered to the charms and incantations of those, whose superior cunning, enabled them to deceive; to the period when the visits to the famous temples of Apollo and Minerva were considered infalable antidotes to disease, or to that ~~period~~ time when, an ablution in the Nile was a specific against every morbid phenomena - we can but be amazed and wonder that the science of medicine ~~is incomplete~~ has improved and become the study of a lifetime.

Those periods have passed by and with them, the charms and incantations - which formed the important desiderata in the practice of the healing art.

Early in the history of medicine Materia Medica seems to have been noticed Pliny the most profound naturalist of his time; directed his attention to the science of Medicine, and presented many, concerning the power of different plants well worthy of the attention of the modern student -

Dioscorides, a native of Asia minor, gives a description of many vegetable remedial

When we look at the history of the poets, and persons with them, we find two only, our ancient friends, addicted to it, the one and meditations of Theory, being during their business, enabled them to discover, it, the other when the reach it the famous temples of Apollo and Minerva were so behind unfolded entirely to disease, or to that time when an solution in the field was a disease against any mortal phase. We can but be amazed and wonder that the illness of Madness is completely improved and leaves the field of a lifetime.

Other periods have passed by and with them the Genius and inspiration which for most the important disturbance in the process of the healing art.

Only in the history of madness the terms Madness seems to have been marked thus the most profound naturalists of his time directed the attention to the illness of Madness and Insanity. Finally enumerating persons of different plans (with number) of the attention of the (modern) Mind.

Observed, a matter of this nature is a description of many epileptic manuscript

agents, which tho' imperfect and the result of an empyric practice, teaches us that he was by no means, a man, who could not form correct deductions from experience.—

— — — — Passing over that portion of the history of medicine — from the days of Galen, whose superior talents, and unrivalled reputation tended to suppress investigation, and, thereby prevent the reasoning of the dogmatists: we come to the dark ages, and the decline of the Roman Empire — — — — — — — —

— — — — — — — It was at this period that energetic minds exhibited unequivocle marks of decline, genius was buried among the ruins of the declining arts & sciences. — The Augustan age had departed. — The splendor of Rome was declining: — The science of Medicine was equally unfortunate with her sisters — this however did not continue always. — — — — —

— — — — — — — — The dark ages like every other important period had their beginning, and their end — letters were revived — a brighter prospect opened itself to view. — a reformation was at hand. —

which not only in its immediate object but in its ultimate effect raised human nature to a higher elevation than it had obtained even in the most splendid periods of Greece and Rome.

The conclution of the dark ages brings us to the fifthteenth century which offered incentives ~~which~~ calculated to rouse the dormant energies of the human mind. The taste for learning and investigation was aroused. The art of printing was invented. the love of fame, and hope of immortality were incentives to urge those who had an honorable ambition.

Mahommed entered constantinople, and dispersed the learned inmates of the Greek monasteries — who driven from their homes, were scattered to the four corners of the world. Through necessity they became the teachers and determinators of the arts and sciences.

These two circumstances, the art of printing and the dispersion of the Monks tended to enlighten the world, and deliver it from the grossest ignorance

The mind once aroused, made to enquire, allowed freedom of thought, — observed and drew conclusions. — — — — — — The incumbent of the chair of Saint Peter — (Pope Leo. X^th.) by his voluptuous extravagance, bad example, undignified conduct and immorality excited the just indignation of an enlightened and distinguished German Monk. The reformation dawned. — Knowledge advanced. — The impulse was given which buried superstition and ignorance. — The arts and sciences were once more encouraged. Medicine with her sisters was revived — The theories of Galen and Hippocrates were deemed worthy of consideration — Cause and effect were noticed — experience recorded — a spirit of observation was established, and medicine, gradually advanced and improved, up to the present century. Its march is still onward — no general doctrine or system is now exclusively favoured by the judicious or unprejudiced physician.

The systems of the most hypothetical

The march was rapid, made in
August, although frosty & thunder — clear
and dry weather.

— The movement of the chain of
Mount Sinai — (Exod. Ch. X^th) by his so-
lemnly expressed, but explicit,
mortifying, fearful and commanding
precepts the just indignation of an in-
dignant and distinguished Human
Mind. — The reformation through
Theological advances. — The impulse and
power which turned superstition and
ignorance. — The rude and learned
were now more enamoured. — Reason
with her platform was reared. — The
era of Calm and Hyperbolic were
cleared, worthy of Consideration — Cause
and effect were noticed — appearances
marked — a chart of observations was
established, and Medicine, produced
advanced and improved up to the
present century. The march is still
onward — No general decline or stagna-
tion now exclusively planned by the
divine, or prophetic Philosophers.

The systems of the most superstitious

contain something to admire and embrace. Even the fanciful Hanneman advanced principles — which we would do well to observe — — — — — — —

— — — — — — — With this slight allusion to the history of the past; we are brought to the consideration of our subject — the notice of which — it is hoped will not be uninteresting or unproffitable. — — —

— — — — — — — The "Modus operandi of medicine" has long been a source of difference in opinion. The reasoning of the dogmatists made evident through experience shows the operation to be through the medium of the circulation, and the sympathy of the nervous system. — — —

— — — — — — — If then remedies act thus we should administer those which through the combination of their constituents produce impressive and important effects on the human system. — — — —

— — — — — — — When the human frame is prostrated by fatigues — and the nervous energy is deprived of its impressibility by a diminution of the vital principle we are led to consider those remedies which are

Conclusion – Journeying to Athens and receiving from the Council of Ephesus assurances which would be gladly to receive.

With this slight allusion to the history of the past, we are brought to the consideration of our subject. The nature of which – it is hoped – will not be misunderstood or unjustifiable.

The "Modern Phenomenon of Modernism" has long been a source of difference in opinion. The meaning of the phenomenon made student thought, appearance shows the opinions it to through the Pressures of the Curriculum, and the sympathy of the numerous students.

All this induces us to the church authorities that which through the Condemnation of this Constituent produce unfortunate and unfortunate effect on the human system.

When the human system is protected by religion – and the source energy is derived of its supremacy by a consciousness of the total powerful we are led to consider these pressures which are

calculated to receite, and revive the sensibility - This effect is produced by that class of remedies which "lessen the sensibility and irritability of the nervous system. It is on an article of this class we design predicating this Essay -

Arnica Montana or Leopards bane though much neglected and nearly out of use is not the less valuable. It is found wild among the Alps and has been long known to the Germans as a valuable remedy in diseases of the nervous system -

For a description and an account of the properties see Wood and Bache's United States Dispensatory page 121 - which please see -

Leopards bane is a stimulant directed with peculiar energy to the brain and whole nervous system - Its powers were truly known to the Germans - but have never been fairly tested by English or American practitioners - hence the cause of the disrepute into which it has fallen.

In large doses it stimulates the nervous system, increases the volume and frequency of the pulse, causes nausea, and

relative to respects such means the
beneficity. This effect is produced by
that class of remedies which lessen the
sensibility and irritability of the nervous
system. It is on an article of this class
we design introducing this today —

Spasmodic Hysteria or Hysteria has
hitherto been regarded as really only a
disease of the sexual organs. It is found
with many the effects which has been long
known to the learned as a relative from
injury or disease of the nervous system —
We in description such one as regard
of the properties are those such treated here
with which stimulatory page 131 which follows
the

Hysteria here is a disease
treated with peculiar energy to the brain
and whole nervous system — The Hysteria
truly known to the learned have been
been clearly traced by Empirical or Spasmodic
Medicinesers there the causes of the disease
which are which it has relation —

The large class of stimulants the
nervous system increase the actions and
frequency of the pulse, causes redness

sootness, increases the peristaltic action. In small doses it exhilerates the spirits, renders perception unnaturally clear and produces that happy state of independence and exquisite pleasure, which the English opium eater derived from the use of his much rellished, though potent drug. — differing in this important particular — Opium governs the peristaltic action — Arnica has little or no effect upon that action — save perhaps as a slight laxative in enlarged doses —

——— From observation it has been found to be Stimulant — Excitant — Diaphoretic — Diuretic and Emmenagogue, and in small doses Tonic. ———

In doses of twelve grains — repeated morning, noon and night it has — acted as a laxative. this should be particularly taken into consideration, when we administer it in low forms of fever. for its tonic, and stimulating effects —

This substance has been advantageously used in Hysteria — Gulæ Serenæ &c. also in a peculiar affection — the loss of tone in the Auditory nerve — caused by a want of tonicity of the nervous system thereby

causing a form of deafness at once distress-
-ing and inconvenient.

A case characterized th as above
alluded to, — occurred in the practice of my
preceptor Dr. John Swope of Taneytown Md. —
A lady aged thirty eight, came to him com
plaining of deafness — accompanied with a-
sence of roaring in her head — This distress-
ing symptom was more acute before meal-
time and frequently subsided after the disten
tion of the Stomach with the accustomed
nourishment — He conceived the idea that
his patient was suffering from debility — he
put her upon the use of Tonics and a gen
erous diet. — From this course of treatment
he found partial Success — The most distressing
symptom, — (the noise or sence of roaring in the
head) disappeared — The deafness however he
was unable to conquer — he was about to
leave his patient in that distressing situ
ation which would not only deprive her
from enjoying the company of Strangers but
which would deprive her of the pleasure of
hearing those, for whom a mother is most
interested, give her the endearing title of which,
the fairer & weaker Sex, is most proud.

having a form of beauty at once dazzling and unconscious.

I was characterized it as also allied to recurrence in the practice of my profession by certain stages of convulsive itch.

A lady aged thirty eight came to have some planning of dentures accompanied with a sense of pressure on her head. The distinguishing symptom was more acute before menstruation. She concerned the idea that the patient was suffering from debility. It put her upon the use of stimulants and a spare diet. From the grounds of treatment he found partial success. The difficulty symptoms, the more or less of pressure in the head) disappeared. The depressive nature was more marked to conquer. He was about to leave the patient in that distressing state when which usually such only depress her from enjoying the company of strangers but which usually depress her of the pleasure of having them for whom a mutter is most interested give her the enduring title of which the pain & weather by is most powerful.

Senica Montana was prescribed without the most distant idea of success:- in fact it was a denier resort: all other remedial agents which could seem to have been at all indicated were had been tried and failed, but this, like a panacea, was no sooner prescribed, than by its effect on the system promised success.

Through its influence - the tonicity of the nervous system was restored - her deafness consequently relieved - and she restored to her family completely renovated, and prepared to enjoy their society -

Had the above been the only advantage ever derived from this drug it would alone be sufficient to prompt the present humble notice: fortunately however it has been found applicable in a more extensive sphere.

Our attention was first directed to it, by observing the powerful effect of this remedy upon the nervous system of an hysterical patient in the practice of the gentleman above alluded to.

Remedy after remedy had been used without the desired effect the excitant properties of each had acted upon the excitibility of his patient untill her nervous

system like that of the drunkard refused to react under the influence of the usual remedies – seeing now the exhausted state of the excitibility of her system and the negative effect of the administered remedial agents – it became evident that something else must be effectually prescribed, or death would be the consequence.

Knowing the excitant properties of the Leopards bane it was prescribed in eight grains doses repeated after an interval of four hours – the result was most happy.

Observing it to effect peculiarly the nervous system it was suggested that it might be useful in amaurosis caused by a depression of the excitibility of that system and the consequent debility. – Or from that varely caused by a long continuance of any depressing passion. An opportunity offering we had a chance to test the correctness of our hypothesis – A patient aged perhaps 30 years presented himself – The vascular excitement was controled by means of the lancet – The patients gums

system with that of the chemical agent to read under the influence of the usual remedies — during now the exhausted state of the sensibility of her system and the impression effect of the administered remedies a point — it seems evident that something else must be effectually prescribed or death must be the consequence.

Assuming the general proportions of the digestive tube it was presumed in such cases these repeated efforts on such well of fine form — the result was must happy.

Assuming it to effect from this the nervous system it was by quite that it might be useful in the nervous caused by a depression of the sensibility of that system and the cause general debility — We know that nervous caused by a long continuance of any depressing passion — the opportunity offering we had a chance to test the correctness of our hypothesis — a patient aged twenty eleven presented herself — the insensibility of extremes was contrasted by mass of the lungs — the pulse quick

touched with mercury - the system was thus prepared for the administration of the remedy.

Leopards bane was administered in doses of five grains, repeated ~~after~~ three times a day. The system had no sooner accostomed itself to the new expedient than the most distressing symptoms began to abate. - The depraved vision was corrected - the appearance of Cobwebs was less distinct - the pain in the eyes, head and face abated, in two months the remedy was discontinued and the patient relieved.

It is deemed proper to state that the remedy was always given in doses sufficiently large to make the patient feel sensible of its effect the maximum dose never exceeding twelve grains.

The patients never complained of that distressing headach mentioned by Drs. Wood and Bache in their dispensary. In experiments on my own system I never felt any inconvenience from that source.

My preceptor has tested the tonic properties of this substance - in low forms of fever

treated with morphia – the system was thus prepared for the administration of the remedy.

Morphia was administered in doses of five grains repeated after three hours & day. The system took the usual accelerated activity to the new agent and then the most disturbing symptoms began to subside. – The depressed tension soon gave – the appearance of relaxed and lid distended – the pain in the eyeball became dull, in two months the man only had the continued and the patient is cured.

It is deemed proper to state that the remedy was always given in doses sufficiently large to nearly the patient feel drowsiness of its effect the maximum dose never exceeding twelve grains.

The patient never complained that distinct headache mentioned by Mr. Hunt was felt in this instance.

The appearances in my own system I have felt any uneasiness from the drugs.

The irregular ~~in~~ tension the loss of vision of the distinctness in low forms of figures

and has no cause to regret its use. It appears to me that the slightly stimulating effect it has in V gr. doses together with that moist state of the skin which it produces would ~~immediately~~ particularly indicate its use, during exhaustion in febrile diseases – at least it ~~could not be objected to~~ is a remedy against which upon scientific reasoning, there could be urged but few objections.

The Germans used it in all paralytic affections believing it to be a perfect panacea – Whilst there is no doubt, they lauded, and promised to much good from its use – yet we can but ~~doubt~~ think that a few experiments fairly made would produce many more advantages, than is supposed by those who gravely inform us, "that it is out of use – unworthy of attention, and given in doses of from twenty to thirty grains."

It has been said to be empirically used in Nephritis and Dropsy. If the use of medicine according to indication be empiricism then practice like this is: if the use of a diaphoretic and diuretic is admissible in diseases of this character

and then we cease to regard it as an-
pheno to our that the slightly alternating
effect it has in Up. then together with that
most that of the white which it produces
towards ~~[illegible]~~ particularly noticeable in our
in fabric [illegible] - at least it seems that
we expected it is a remarkably significant appearing
scientific reasoning, this could be simple but
our expectations.

The element what it is all for
aesthetic effection believing it to be a perfect
harmony — (which then is the truth the
harmonic and prominent to much good from
it was - yet we can but ~~[illegible]~~ trust to that
a few apparently fairly made would be
there many more astonishing, there is deep
proved by these rules precisely uniform in
"that it is out of rule - unworthy of it
textures and given in dress of some twenty
to thirty years."

It has been plain to be employed
by most in rhythmic and proper. If the
use of measure according to instructions
be employed then practice lies the ch:
if the use of a diaphanous and dynamic
is extremely in measure of the character

then Arnica Montana may be prescribed without the laughable allusions to empyricism except by those who do not understand the force of the term.

The cautions to be observed in the administration of this drug are few but important in an over dose it is said to be poisonous - The symptoms are said to be similar to those caused by any of the narcotic poisons — and is "best" counteracted by the free use of vinegar or other dilute vegetable acid.

This substance is given in substance or infusion — dose of powdered flowers varies from grs III to grs XII - the practitioner to be governed by the effect upon the system - and the indication - the dose to be frequently repeated - like all stimulants - use dulls the sensibility and accustoms the system to its influence hence a gradual enlargement of the dose can with safety be permitted —

The "infusion is prepared by digesting an ounce of the drug in a pint of water - of which from ℥ss to ℥i is given every two or four hours —

In the mountaneous portions of Europe and Siberia it is said to be used

Two serious obstacles may be encountered
whether the solution to employment
people by those who do not understand the
laws of the trade.

The question to be answered
in the administration of this therapy on just
that important in one case it is said to
be poisonous. The symptoms are said to be
similar to those caused by any of the narcotic
poisons — and is best counteracted by the use
of opium or other diluted vegetable acid.

This substance is given in such
strength or quantity — dose of potassium iod
ide varies from gr. III to gr. XII. The treatment
to be pursued by the effect upon the system and
the reaction. The dose to be frequently repeated
till all symptoms — are stable the benefit
by and accounts the system to its influence
hence a gradual enlargement of the dose
can rarely safely be permitted.

The injection is prepared by dissolving
an ounce of the drug in a pint of water
tar. of which from ℥ii to ℥i is given every
two or four hours.

In the pneumonic portions of
lungs are filling it is said to be wise

as a substitute for tobacco. That it is thus used should create no surprise, as there can be but little doubt that its continued use would create a habit as agreeable and seducing as the far famed Indian weed.

From experiments upon my own system - I have experienced the most delightful sensations. The fumigation of tobacco or the potations of the different dilutions of Alcohol are by no means as agreeable or seducing. and eminently more degrading.

Having now presented views founded on observing the effect of Arnica Montana upon certain morbid conditions of the nervous system in a concise though irregular form - I have only to remind those to whose consideration this is, (respectfully) submitted, of the impossibility for one not engaged in practice to substanciate important practicle facts in medicine; yet it is hoped that even this feeble effort will induce those who have opportunities to give this valuable remedy an impartial trial, should their experience lead them to the same conclution here arrived at a valua=

=ble

remedeable auxilliary may be reclaimed from obscurity — or if on the contrary it fail to have the hoped for effects that it then may be left to share the fate of other vaunted remedies which during their experimental existance have been dignified with the title of Catholicons; only that the blazing rays of science might the more effectually consume their unmerited reputation.

An
Inaugural Dissertation
on
Gun Shot Wounds.

Respectively Submitted
to the
Examination of the
Provost, Regents, and Faculty of Physic
of the
University of Maryland.
for the
Degree of Doctor of Medicine.

By
Wm Covington Atkinson
of Baltimore.

January 1st 1844.

Gunshot Wounds — receive their name from the manner in which they are produced —

In Surgery, they are cases which cannot be studied with too great attention, the modern mode of warfare, and the martial times in which we live, making these injuries numerous beyond conception. As the invention of gunpowder (we are told) did not happen till the fourteenth century, and this substance was not applied to the projection of bodies from fire-arms till a later period, gun shot wounds compared with the generality of other diseases and accidents, may be considered as forming within a new branch of Surgery. The ancient writers, who have left us many valuable remarks on many surgical subjects, are totally silent on this, and we must turn to the pages of very modern authors for what is to be looked upon as the best and most accurate information —

When a musket or pistol ball has penetrated the ordinary fleshy part there is seen a hole within smaller than the ball itself, with its margin lived and inverted — should the ball have passed completely through, there will be another larger, and more ragged orifice with edges everted. The wound will beside be attended with more or less pain, hæmorrhage and constitutional disturbance.

The pain is said by most authors to inconsiderable at the moment of the infliction. Mr Guthrie, affirms that this is not the case, and that in general the pain is severe;- that it is a dead heavy and painful blow:- although the injury may not be felt at the moment of ~~infliction~~ because it is inflicted while the patients whole attention is absorbed in other objects. I have been informed by several persons upon whose statements I can rely, that the pain is very slight, a Mr Miller of Virginia was showing me a ball that had been in his leg for nine years, and that he was not conscious be having been shot until near an hour after he received the wound. he informed me that he received it in a fight and heard the discharge of the piece, and had not the discharge of blood from the wound ~~been~~ filled his boot, he would not have discovered it at all.

Authors generally state that gun shot wounds are attended with little haemorrhage, unless some considerable blood vessel has been divided. But Mr Guthrie asserts that this is equally erroneous, that there is generally considerable haemorrhage of an arterial color, but that the wound of a large artery is only to be feared if the blood continue to be poured out in spite of pressure, per saltum and in great quantity. The contrary opinion to that given by Mr Guthrie, was expressed by a sailor who was admitted into the Baltimore Infirmary in May last. he had received a wound through the palm of his hand

carrying away a large portion of the metacarpal bones of the second and third fingers. and injuring the palmar arch & one of the digital branches. from this there was no haemorrhage of any consequence after his admittance into the house, and he informed me that there had been very little previous to his admission. The extent of the injury I received from Prof. Hall who was at that time Surgeon of the House.

The Constitutional disturbance attending these injuries generally is severe and peculiar. The surface pale and damp with cold perspiration; the limb tremulous, the patient cannot stand unless supported, and suffers from vomiting, faintness and peculiar alarm, and great confusion of mind. The severity of the symptoms will be however in proportion to the extent of the injury, the importance of the part wounded and the fortitude of the sufferer.

A circumstance connected with gun shot wounds, is the facility with which they are diverted from their course by the most trifling obstacle.

Prof. Smith related a case in his lectures on Surgery during the last session. of a ball having struck a man on the right side and having passed round (just under the skin) to a point near the spine. A case is related by Dr. Dennis as occurring to a friend. where the ball performed a complete circuit. a ball struck near the Pomum-

Adami and passed completely round the neck and was found lying near the orifice at which it entered. The track of the ball in these cases is known by a blush or slight red line on the skin, and the diagnosis will be aided by the presence or absence of the symptoms of wounds of the great cavities.

It is important to ascertain whether the shot has passed out of the body or not - and in case two holes should be discovered it may be difficult to ascertain if the person has received two shots or if the ball passed out at one of the holes, this may sometimes perplex one, but should we be able to ascertain his position we can decide with much more readiness. A case is related by Mr Guthrie of a soldier presenting himself with two shot holes, but they were caused by the same ball, which entered at the ankle when the foot was raised in the act of running and passed out near the trochanter. Another of a soldier who was ascending a scaling ladder, was wounded in the right arm, and the ball was found under the skin of the opposite thigh. He also relates a case of a ball splitting and passing in two opposite directions, this may happen either from a defect in the ball in casting or from its coming in contact with some sharp substance as the corner of a stone.

Gunshot Wounds are frequently complicated by the presence of foreign bodies - pieces of clothing

are not unfrequently found, or some matter that the person may happen to have in his pocket at the time of the injury.

Prof. Smith related a number of cases in his lectures where great attention had been paid to the injuries received from spent balls. from the violence of the injury inflicted with very little appearance of it. such as a cannon ball passing near the head and causing death immediately or in a few hours, without leaving any morbid appearance that could be detected by dissection. A case related by O'Hennen of a lad who was carrying a bag of sand on his head, when it was struck by a twenty four pound shot from a distant battery.

He immediately fell, senseless and comatose, with a slow, weak pulse, laborious respiration without stertor, and incessant attempts to vomit. The pupil of one eye was dilated and motionless, that of the other natural; the hair along the sagittal suture was erect, resembling that of a person placed on the insulating stool and electrified. In this state he remained twenty four hours, and then expired in convulsions. No cause of death was discovered on a minute examination, so that it must be attributed to a violent concussion; but it is remarkable that the ball should cause such a concussion, without causing some more

palpable lesion. In a great number of these cases it is found that although the skin may be but slightly injured, the parts beneath may be completely disorganized - the muscles reduced to a pulp, bones comminuted, and the large vessels torn across - the patient is stunned - and the injured part is motionless and senseless, and benumbed for some distance. Swelling goes on but more from extravasation than from inflammation, which although attempted to be set up, never attains any height - Gangrene occurs speedily, and is propagated to the neighbouring parts weakened as they are by participation in the injury, and by their contact with tissues that have already ceased to live -

These injuries were formerly called wind contusions, being ascribed to compression and displacement of air by the ball - and it was not until Ambrose Paré introduced more correct theories upon the subject of Gunshot wounds, ideas the most false, and errors highly prejudicial, prevailed both in their history and treatment, particularly respecting what have been falsely named wind contusions - Cannon balls and bullets sometimes produce dreadful degrees of injury, without occasioning any breach of continuity in the integuments. This observation is so strictly correct, that the muscles and bones may actually be crushed and broken to pieces,

without the skin being at all wounded. Such cases were for a long time imputed to the violent motion supposed to be communicated to the air by the ball itself. It was imagined, that this elastic fluid, being rapidly displaced by the shock of the projectile, was capable of making such pressure on surrounding bodies as to destroy their texture. But how could this violent pressure originate in the midst of the open and unbounded air? If this theory be true the effect in question would constantly happen, whenever a ball passes near any part of the body. The contrary, however, is so much the case, that pieces of soldiers' and seamen's hats, of their feathers, clothes, and own hair are shot away in every battle, without any other mischief being done. In consequence of the manner in which such injuries of the soft parts, and even of the bones, unattended with any breach in the skin, which have been supposed to have been produced, they have been erroneously called wind contusions. In fact these cases are universally acknowledged by all the most accurate observers now to proceed from the cause to which formerly they were ascribed —

The air does not move with the same rapidity as the ball; but its motion is less in proportion as it is a more subtle matter, and must be too feeble to account for such a violent degree of injury.

The air to which the ball must really communicate the greatest motion is what is directly before it; and this never bruises the part that is untouched by the ball itself. It is only the air situated laterally to the shot that is imagined to do injury, and it cannot be greatly agitated. The violent consequences of sudden explosions, and the effects produced on the organs of hearing by strong commotions of the air, prove nothing relative to the point in question.

Experience does not confirm the reality of such contusions; for cannon-balls often tear off whole members, without the adjacent parts being the least injured.

I could cite says Mr Cooper many cases which I have myself seen in proof the truth of the opinion of the Author from whose writings the above was selected (Le Vacher) but the point is now so universally admitted, that I shall merely add one observation that occurred to many as well as myself. He says at the bombardment of the French flot in the basin of Antwerpt early in 1814 a cannon shot shattered the legs of two officers so badly that the limbs were amputated. These gentlemen were walking at the moment

of the accident in the village of Merksam, taking hold of the arm of his friend Assistant Surgeon Stobo of the 37th regiment who was in the middle. Now the ball which produced the injury did not the slightest harm to the latter gentleman, although it must have passed as close as possible to his lower extremities and most probably between them.

Neither say Mr Cooper can what have been improperly termed wind contusions be attributed to an electrical shock on the parts, in consequence of the ball being rendered electrical by friction in the caliber of the gun, and giving off electricity as it passes by; for metals never acquire this property from friction. The mischief imputed to the air is occasioned by the ball itself. Its producing a violent contusion, without tearing the skin and entering the limb, is to be ascribed to the oblique direction in which it strikes the part, or, in other instances to the feebleness with which the ball strikes the body, in consequence of its having lost the greater part of its momentum, and acting principally by its weight, being, in short what is called a spent ball. Daily observation evinces that balls, which strike a surface obliquely, do not penetrate, but are reflected; though they may be impelled with the greatest force, and the body struck

may be as soft and as yielding as water. This alteration in the course of the ball, not only happens on the surface of the human body, but also in the substance of a limb which it has entered. Thus, a bone, tendon &c may change the direction of a ball which touches them at all obliquely. Hence, it is manifest, how it happens that the track of a gun-shot wound is not always straight, and how balls sometimes run under the integuments nearly all round the body or limb. The causes of several of the peculiarities attending gun-shot-wounds, are to be sought among the laws by which moving bodies are governed, and by which the mechanical effect of a ball, propelled against any part of the body, must therefore be determined. The form, the momentum, and the direction of the shot that is received: the position and the variety of the structure, or, in other words the variety of density and powers of resistance, in the part receiving it, must always be considered, in order to account satisfactorily for the effects which it produces. And though, says Wotherlin, in many cases a mathematical explication of the course of the ball cannot be given, this arises entirely from the want of data, the laws of matter being fixed and immutable. But when the data are known, as for instance, the velocity and direction of the shot, the position of the patient, or of the wounded part at the

time of the accident, and the structure of the parts penetrated, a much more probable conjecture of the course of the ball may generally be formed, than if these circumstances had not been regarded.

On the principle of the density and resistance of the parts, attempts have been made to explain the reason of the concussion or shock which is given, in many instances, to the whole system by gun shot wounds, and which is represented, by writers of this subject, to be often attended with grave and even alarming effects, extending not only on the injured part, but affecting the system at large. Thus a shot striking against a tendon, or a bone in one of the extremities, will produce a greater concussion than if it struck only against soft parts. A shot striking a muscle in action will produce greater concussion, than if it struck against the same part of the same muscle at rest; and a shot striking the head or wounding the liver, lungs or intestinal canal, will generally bring on instantaneous derangement of the whole system, with which the functions of these parts are so closely connected.

In favorable cases inflamation generally comes on from twelve to twenty four hours after a gunshot wound of some common part. The wound becomes swelled, stiff and painfull, and pours out a little reddish serum - on the third or fourth day pus begins to form, but the suppuration is limited by the effusion of lymph around the wound - about the fifth day the parts in the track of the ball, which have been killed by the violence of the contusion begin to separate and change from a blackish red to a brownish yellow color - and about the tenth or fifteenth day, sooner or later according to the vigor of the constitution a slough is thrown off - (Mr Guthrie states that it by no means true as it is generally stated that the whole track of the ball must slough, for the seperated parts are never equal in extent to the depth of the wound.) In the mean time granulations form, the wound contracts and becomes impervious at its centre, and generally heals with a depressed cicatrix by the end of six weeks or two months, - the lower aperture always healing first. These symptoms are observed in healthy constitutions, and they will be attended with little constitutional disturbance, and that of no long duration.

Should the patient previously to the receipt of the wound or after it have committed excesses, or have been exposed to the vicissitudes

of temperature:- or if the wound has been irritated by want of rest, or improper applications the local and constitutional affections will be much more formidable. The pain more severe, the redness and swelling greater and more extensive, the wound dry and the fever violent. When suppuration is established instead of being confined to the track of the ball it is diffused among the neighbouring muscles and fascia, forming numerous and irregular sinuses. so that the treatment is protracted for a long time, and even after a cure is completed, the limb remains disabled by contractions and adhesions of the muscles and is liable to edematous swelling from the structural and vital weakness which a long continuance of inflamation never fails to leave -

Should a ball or any other substance remain lodged in the wound, the inflamation and constitutional disturbance will be increas-ed and the suppuration more profuse and exhausting: and will be accompanied with more or less pain until the foreign substance be got rid of: But if the part as well as the constitution are not very irritable and the ball small, and does not press,

against any of the nerves, vessels, or other sensitive part it may and often does remain for years without the least inconvenience.

A man was admitted into the Baltimore Infirmary in April and in consequence of his having been exposed to the weather, besides using freely of drink for several days after having shot himself in the thigh. The inflamation in consequence of the exposure was so great at the time of his admittance that Prof. Hall deemed it inexpedient to attempt to extract the shot — after the inflamation subsided the shot could not be reached with a probe, and from no symptoms appearing, indicating that irritation would be caused by their remaining in the limb. The Doctor made no further attempt at their removal. This patient was discharged in five weeks from the day of his admission cured — and I have heard from my friend Dr Worthington who resides in the same neighbourhood that is doing well, and attends to his daily work on a farm.

Mr Guthrie describes two rare and peculiar forms of ~~gun shot wounds~~ inflamation occasionally supervening on gunshot wounds.

The first is a most acute inflamation, attacking the muscles and other deep seated

parts, with very little affection of the skin In the instances related, the wounds were apparently going on well, when they became extremely painful towards evening, the pain increasing during the night and death occurring before morning. on dissection says he the whole limb seemed stuffed or gorged with blood, that the texture of the parts, muscular, as well as cellular, was soft and easily giving way to a moderate pressure of the fingers. He says it can only compare it to the appearance of a part just falling into a state of gangrene.

The second variety made its appearance after the first two days, and in every case which he saw the wound was in the upper extremity. The part swelled and was rather oedematous and affected with a burning pain: the skin bright and glossy. In the fatal cases the swelling rapidly extended itself to the axilla, and then difficulty of breathing came on, and was soon followed by death. One patient only, was saved, out of six, by the most vigorous antiphlogistic treatment. The first three cases were not inspected p. m; in the fourth the great veins were inflamed, and in the fifth there was effusion into the chest.

Mortification supervening on gunshot wounds may occur under the following conditions.
(1) When the injured parts is irrecoverably disorganized, so that they immediately cease to live, which happens to tissues (according to writers on this subject) in the immediate track of a musket ball, or to a whole limb struck by a spent shot. (2) From excess of inflamation following a wound;– either because the action induced is too great to be borne by the weakened powers of the part;– or because the excess of inflamation is due to a disordered state of the constitution. (3) From division of the great arterial and venous trunks. This is indicated by its commencing in the extremity of the limb; the foot or the hand for instance; and it presents a combination of the two forms of dry and humid gangrene. The most distant parts become cold, pale, and insensible; this state spreads up the limb: then the patient complains of pain and numbness; and the parts above those which are actually dead become slightly tumefied and discolored. In the course of three or four days heat and redness supervene, and the swelling greatly increases. The constitution now becomes affected with restlessness, anxiety and fever; the swelling rapidly increases, with great pain, the skin becomes yellowish and streaked with bluish lines.

The patient mostly sinks:- there being but few cases in which, if the first stage has passed by, and the constitution has become affected, as indicated by the rapid extension of the gangrenous swelling, there will be power to arrest the disease, and form a line of separation.

Secondary Hæmorrhage is another form or complication requiring attention. This may be caused. (1) By a great increase of arterial action, by which the coagula in the mouths of the divided vessels are displaced. This may occur at any time from the first to the fifth or sixth day. (2). By the separation of a slough from a large artery. This may occur from the fifth to the twentieth day; and this variety is of the most frequent occurrence, but upon the authority of Mr Guthrie we are informed that this does not occur in more than three or four cases in a thousand). (3) from an ulceration in the coats of the arteries, this may occur at any time previous to the wounds healing. (4) And the most common is an inflamatory hæmorrhage, the blood not being poured out from any particular trunk, but exuding from the general surface of the wound, this may be caused by any thing capable of exciting the system - food, drink, or over exertion -

The first thing in the treatment of a gunshot wound in one of the extremities is, whether it would be most advisable to amputate the limb immediately, or to undertake to cure the wound. The nature of the wound as well as the importance of the part will assist us in forming our opinion as to the manner of proceeding; however amputation is never necessary unless some important part is seriously injured – In simple cases, when a ball has passed completely through some common fleshy part, such as the thigh or buttock, the wound should be sponged clean; and when the hæmorhage is arrested, the best application is a piece of lint dipped in oil, which should be secured by cross slips of adhesive plaster. These dressings should remain for several days, and should they become stiff they should be moistened with warm water previous to their removal – during the succeeding inflamatory stage there is a choice of hot or cold applications as may best suit the views of the practitioner –

Great care is requisite in the treatment of these wounds to prevent the formation of sinuses – they may however be prevented by a little attention in time – by carefully pressing out all stagnant matter and preventing

its accumulation by compresses; or by free openings if necessary to aid its discharge - Gentle friction & passive motion are recommended as the best mode of preventing or removing stiffness. The constitutional treatment should be antiphlogistic. Should the inflammation be slight, purging, low diet and rest may suffice; but if severe and the patient robust, bleeding may be freely employed. Leeches may be employed to allay irritation and opiates given at bed time if there be much spasmodic twitching and pain. Superficial wounds, made by musket or cannon balls are to be treated in the same way, except that cold lotions are never to be extensively applied to the trunk.

Dilatation of wounds - is sometimes practiced as a mere rotine - this or scarifications should never be made without some distinct object, being in view - but no one will doubt the propriety of long and deep incissions where there is great swelling of the muscular parts confined by the fascia - or if matter form in the part to give it a free exit -

Dilation may also be required in compound gun shot wounds to remove splinters of bone.

Authors very properly lay great stress on one

ascertaining if any foreign body be lodged in the wound. for even although says Mr Druitt it may be satisfactorily demonstrated that the ball has passed out - or although there may be mere laceration from grape shot or shell, still pieces of clothing or other substances may remain in the wound. If there be but one opening such examination is indispensable. The part should be put as near the same position as possible as it was when the wound was received: the finger should be introduced into the wound as far as possible and counter pressure being at the same time made on the opposite side of the limb. In unimportant parts the finger may be aided by a bougie. or in deep seated parts - Should the foreign substance be lying immediately under the skin, it should be removed as soon as possible by an incission, which will require to be larger than will be at first imagined, pressure being made to prevent the ball changing its position during the incission, otherwise the opperation will be prolonged and tiresome - If the foreign body be near the mouth of the wound it should be removed with forceps, the mouth of the wound will have to be dilated, as from the natural elasticity of the parts and the swelling tumefaction the opening will be too much contracted to allow

it to repass.

It is a well established rule in Surgery that on no account are incisions to be made for the removal of foreign bodies unless we are certain of being successful; both on account of the pain created, and the depressing effects of a failure on the patients mind.

If the ball is the middle of the thigh or other thick fleshy part, and from the direction of the wound it cannot be extracted without a very considerable incision, it should be left to itself; and it will probably be brought within reach by the natural contraction of the parts, and by the flow of matter; or it may become incysted and give no further trouble. Bullets that are incysted and come near the skin are to be cut out - or if during any of their extraordinary changes of position, they impede the functions of any important part - otherwise they are best left to themselves - the cyst that envelopes them is so dense and adheres so firmly that a portion that a portion of it must be removed at the same time - Should the ball be lodged ~~near~~ in the substance of the bone it should be removed with a chisel or trephine otherwise caries or necrosis and indeed so much mischief might be created as to necessitate amputation.

may follow. Some instances are recorded however where balls have remained imbedded in bone without causing mischief.

Haemorrhage - caused by blood exuding from the surface of the wound is to be treated by rest; by the application of cold or iced water or ice itself: — by pressure on the bleeding surface, or on the arterial trunks above: - and if the blood should ooze from any particular spot, it may be touched with nitrate of silver. If there be fever and plethora, bleeding and purging: - if weakness and irritability, tonics, opiates, and mineral acids, and in all cases removal from a crowded hospital will be expedient —

It is not to be wondered at that amputation is frequently required in gunshot injuries of the limbs, on account of the fracture and comminution of bones, the exposure of joints, the division of blood vessels, and the unparalleled violence inflicted on the skin and soft parts.

The points for consideration are - would the preservation of the limb endanger the patients life? and if it would not, would the limb be of use if saved? —

The Surgeon is to be guided by his own judgement in all cases requiring amputation, and if not willing to rely on this - to call in a friend to assist him in forming his prognosis —

An
inaugural Essay on
Apoplexy
Submitted to the Examination of the
Provost Regents and Medical Faculty
of the
University of Maryland
for the Degree of
Doctor of Medicine
by
Dixon Gough
of
Maryland

1844

To Nathan R. Smith M.D.
the following Essay is respectfully inscribed
as a mark of Esteem for his private Worth
and a testimony of the high opinion entertained
of his professional acquirements and his unwearied
exertions in the cause of Science by his
friend and pupil
the Author

January 1844

Apoplexy

By the term Apoplexy, is usually understood, the sudden loss or suspension of consciousness and voluntary motion, attended with more or less disturbance of the functions of organic life, since however a similar condition both of the animal and organic functions may arise from several causes essentially different in their nature, an attempt has been made to restrict the term to the occurrence of spontaneous Hemorhage in the Brain, But as great difficulty, if not impossibility of distinguishing between the existence or absence of hemorhagic effusion must arise, and cases moreover have been recorded, in which, apoplectic symptoms were not absent, although the extravasation was proved to exist, and since it is now ascertained, and generally believed, that the symptoms indicative of this disease, result from compression of the nervous mass, sufficient to interrupt, or greatly impede its circulation, and that this compression, may arise from various causes, either from congestion without effusion, extravasation of blood, or serum, the existence of tumors within the cranium, or external violence to its coverings, sufficient to force in a portion of bone, it seems more in conformity with sound pathological doctrine, and better calculated to answer the great end for which the definition, or description of any disease is intended, (namely its cure), to apply the term, to those phenomena, which consist in a loss or suspension of sensibility, muscular motion, and the intellectual faculties, attended with more or less disturbance of the respiratory and circulatory systems without particular reference, to the immediate pathological condition which originated them, In this sense, I propose to treat of the various symptoms which characterise the disease, and the remedial management necessary for the palliation or cure, in the different modifications which may arise

either from the nature of the peculiar cause, or the accidental circumstances with which it may be complicated, By most Authors a subdivision has been made, for the purpose of pointing out some peculiar morbid condition as evinced by the symptoms prior to death, and which modify the treatment, or the specific appearance of the Brain revealed on dissection, thus effusion of Blood has been called Sanguineous Apoplexy, Of serum, Serous Apoplexy, that complicated with Paralysis Paraplexia, and where no morbid condition could be discovered, and the symptoms accounted for only by supposing them to arise from a congested state of the cerebral vessels, the term Congestive has been applied by some, nervous by others who do not admit the existence of the congested condition as a cause of Apoplectic symptoms, where the autopsy failed to reveal any local lesion, and by Abercrombie, the term Simple has been applied, to this apparently healthy state —

If the value of these distinctions, be estimated by the importance of the indications, which symptoms supposed to be characteristic of each form may point out, it would appear, from the conflicting opinions and statements of different Authors, that in some forms at least, little importance can be attached to to an appellation, as influencing the treatment, which the experience of some of the best Practitioners has proved in many cases fallacious, though at the same time, it would be neither prudent or advisable, to abolish all distinctions between the different forms, as an essentialy different condition in the nervous mass, and the relative powers of the system, does in some cases undoubtedly exist; and will afford indications, which in the management of the case, it will be of the utmost importance to attend to. —

I shall therefore in the following pages, endeavour to point out the

characteristics, which in the opinion of some authors, make the different forms, and indicate modifications in the treatment of each, though at the same time, I may be permitted to express the opinion, that in the vast majority of cases, the great indication is to relieve the congestion of the brain, and that the means, which most promptly and effectually accomplish this end, are in the different forms and varieties essentially the same —

Apoplexy rarely occurs, without some premonitory symptoms, varying greatly however, in the period at which they make their appearance; though in many cases where slight, they are overlooked or disregarded, unless the person has been subject to a previous attack, and learned, to distinguish symptoms, which indicate merely some derangement of the general health, from the precursors of a malady, formidable, not only in its immediate but secondary consequences When they exist for some time previous to the seizure, the following are most common and well marked, Drowsiness, a feeling of weight or tension in the head, vertigo or stopping down, ringing in the ears, defect of hearing, impairment of vision or optical illusions, slight numbness of the extremities, Formication, Headache particularly after eating or by exposure to a high temperature, some loss of memory especially of certain names or words, difficulty of articulation, Spasmodic action of the muscles of different parts of the body, flushing or paleness of the countenance, some turgidity of the veins of the head, fatigue after moderate exercise and unsteadiness in walking — These and similar symptoms indicative of cerebral disturbance, may result however from disease of other organs, as the Heart, lungs, or Stomach, and be wholly unconnected with morbid lesions within the cranium, when they first appear, they should never however be disregarded, as serious consequences will ultimately result from their continuance

in whatever organ the disease which originally gave rise to them be located, and although in the commencement, the Brain be exempt from disease, it may, by the continuance of excessive irritations, become the Seat of a Secondary Affection, more formidable than that which gave it rise — Neither can the mildness or intensity of the Symptoms be relied on, as indicating the degree of lesion, as mild and Slight-Symptoms sometimes precede dangerous or fatal attacks, whilst in other cases, the premonitory Signs have passed over with little or no apoplectic Sequelæ — In all cases preceded by the usual precursory Signs, the proper Prophylactic measures, should be at once adopted in order to shield the Patient in some degree, from the consequences of an attack, if it cannot be altogether prevented —

In the transient or fugitive variety, the Symptoms ordinarily commence with Vertigo, Weakness, Slight-Pain or Tensions of the Head, and Sometimes Retching or Vomitings, Insensibility follows after a short time, the Patient falls and deep Sleep succeeds, the limbs are flaccid, the Organs of Sense have lost their Susceptibility to impressions, the Pulse is Slow and Strong, the Face flushed or Swollen, the Eyes immovable, the Conjunctiva injected, with lividity of the lips, the Respiration free full and regular, accompanied with Some throbbing of the Carotid and Temporal Arteries, the temperature of the Head and Breast is increased, whilst that of the Extremities is lower than usual, Clammy Sweats of the Head and Neck Sometimes occur, and the Face is pale and bloated In this form of the disease as in the Others, the duration of the Premonitory Symptoms, as well as of the Sequelæ, varies greatly in different cases, the Symptoms usually however precede the attack from two to four hours, and the Suspension of Consciousness may last from ten to twelve, Return of Consciousness, usually finds the Patient Confused in mind, feeble and somewhat dejected, accompanied with heaviness of the Head, and Some impairment of Memory, From these attacks the Patient may and usually

does recover, liable however to a frequent recurrence of similar ones, which gradually destroy the memory, impair the Reasoning Powers, the Sensibility of the System, and various functions of animal life —

Another form, characterised by the suddenness of the attack, comes on with few, or none of the precursory signs, which attend the preceding, deprivation of consciousness and voluntary motion, followed immediately by the falling of the Patient, give evidence of the violence of the attack, and the danger to which he is exposed, if timely aid, sufficient to arouse him from this Condition is not afforded, the Face becomes flushed, livid, and swollen, the Pulse full and slow, the Respiration slow, oppressed and stertorous, the Head and Face above the natural temperature, the Extremities cool, the Lips are livid, and usualy forced out at each expiration with a puffing noise, and discharge of frothy Saliva, the Eyes are often bloodshot, sometimes dull and glazy, the Pupils immovable, usualy dilated, though sometimes rigidly contracted, clonic spasms occur, more particularly towards a fatal termination, Deglutition becomes impaired, or totally abolished, the Bowels are torpid, and the stomach often insensible to the most active Emetics, Convulsions sometimes occur during the attack, or may commence with it, and complete Coma gradualy ensue, In this state, death sometimes takes place in a few minutes, or the Powers of Life may resist two or three days, though few survive a complete comatose state more than forty eight hours, the Pulse and Respiration vary exceedingly during the progress of the case, immediately after the seizure, the Pulse is usualy slow, weak, and sometimes scarcely perceptible, gradualy however regaining strength and fullness, it becomes towards the fatal terminations small, irregular, and frequent, the Respiration at first slow, irregular, and at long intervals, regains to a considerable degree its regularity, approaching in many cases the healthy standard, though slow and attended generally with Stertor, which by some is regarded of great importance, in

the Diagnosis of this disease, and almost Pathognomic of Cerebral lesion, though as many exceptions exist, and it has been ascertained, that Apoplexy may arise and proceed to a fatal termination unattended with Stertorious Respiration, its absence alone, could not be considered conclusive of the non existence of this disease, towards the fatal termination, the Breathing becomes slow, oppressed, irregular, with longer and longer intervals, until death closes the Scene —

Another form of Apoplexy, comes on with Violent and deep seated pain in the Head, slight tremors, nausea or Vomiting, Paleness of the Face, a feeling of approaching Syncope, with loss of Consciousness and Volition, the Patient however soon revives, the Symptoms subside in great measure, and he feels able to sit up or walk about, though complaining of Pain or some unpleasant sensations in the head, attended with Vertigo and sometimes nausea. In the course of a few hours, sometimes less than one, and occasionally not for a day or two, the Pulse from being weak and frequent, becomes full, strong, and slower, the face flushes, the temperature of the Skin increased, the Brain gradually becomes more and more affected, until finaly deep Coma takes place, from which the Patient seldom recovers —

Abercrombie has recorded cases, which show, that these changes may occur in a few minutes, or that an interval of a fortnight may elapse, between the first attack, and the superventions of the comatose state, which ultimately results in death, the peculiar symptoms of this form of the disease have been accounted for, by supposing, that Rupture, or effusion occurs within the Brain, sufficient to give rise to the severe pain, and influence the heart's action to such a degree, that Syncope takes place, but at the same time too small in amount to produce permanent compression, the Brain recovers in some measure from the violence of the shock inflicted by the extravasation which first occurred, until gradualy overcome by the increasing effusion, at last yields, and stupor, deep coma, and death ultimately result

Apoplexy is sometimes complicated with Paralysis preceding or supervening on the seizure, the Paralysis generally accurs suddenly, loss of Power or Sensibility may attack any part of the Body, the Paralysis of muscular motion is however most frequent, and usually accurs in the form of Hemiplegia, attended with difficulty of Articulation, and distortion of the mouth and Face, each depending on Paralysis of the muscles of one side only, the integrity of their antagonists being unimpaired, the Equilibrium between the opposing forces, which was necessary to uniformity of action, and the proper position of parts to which they belong, is destroyed, and deformity results, a remarkable fact in connection with this condition manifests itself, namely that the Paralysis accurs on the side opposite to that, in which the lesion of the Brain is located, a condition explained by the decussation of the motor tracts which arise from the Spinal Cord and its prolongations, as the apoplectic symptoms decline, the Paralysis usualy becomes more manifest, sometimes the Eyelids remain permanently open, as the Eye is distorted, distinct Articulation is sometimes impossible and the Patient compelled to express his wants by signs, the memory is frequently much impaired, and the intellectual faculties weakened, by the continuance of a cause which directly intrufes with the various operations of the Brain —

all these symptoms may however gradually subside, and the Patient regain complete controul over the affected muscles, as the Paralysis more or less partial may remain, and death eventualy result from some other cause, sometimes the Patient lingers for months, in a paralysed and insensible condition of a large portion of the Body, without impairment of his mental faculties, and death preceded by coma ultimately takes place, without any amendment in the symptoms, from the commencement of the attack —

These different varieties of apoplexy often passe into each other, many of the symptoms

characterising each form being blended together in one case, numerous varieties occur in individual cases, generally however they may be referred to one or other of the forms mentioned above — The value of some of the symptoms which have been enumerated as indicative of an apoplectic attack, is exceedingly various, and uncertain, occurring as many of them do in cases wholly unconnected with cerebral lesion, the importance which may be attached to them in individual cases, is not once apparent; nevertheless, since there are comparatively few diseases, characterised by symptoms, pathognomic and peculiar to themselves alone, and since in the great majority of cases, we diagnose diseases by a combination of all the symptoms which may exist, and the absence of those which mark a different disease, and thereby serve to draw a line of distinction between them, just so, in examining the symptoms which manifest themselves in an apoplectic seizure, do we draw our conclusions, and confirm the diagnosis by the consideration, of all the symptoms which may appear — As in other affections however the value of some symptoms greatly exceeds that of others, so in apoplexy peculiar conditions of the vital and animal functions are considered valuable in the diagnosis, and whose existence or absence, will materially influence the conclusions to which we may arrive, hence the conditions of the nervous, circulatory, and respiratory systems is of the first importance, both in the Diagnosis and Prognosis of the disease, with regard to the conditions of the Pulse, and the value of the indications derived from it, some discrepancy of opinion exists, depending in most cases, on the stage to which the disease has advanced, and some modifications of the several forms mentioned above, thus it is found strong without frequency, or soft as in the transient form, or it may be firm and irregular as in the variety characterised by syncope and subsequent reaction, and also in the latter stages of the paralytic form, In the commencement of the attack, it may

be slow, weak, and irregular, and gradually regain force and frequency as the disease advances, until towards the fatal termination, it again becomes slow, weak, irregular, or intermitting, its slowness and fulness however in a vast majority of cases, will be found of great importance in arriving at a correct diagnosis, and conducting the treatment —
Stertorous Respiration as before remarked, is by some regarded as Pathognomic of this affection, it is well ascertained however, that the absence of Stertor is not conclusive of the nonexistence of an apoplectic condition, for the disease has been known to exist, and proceed to a fatal termination, unaccompanied with any perceptible Stertor, but as a general rule, we may say the Respiration is slow, oppressed, and Stertorous —
Loss of consciousness and voluntary motion is one of the most predominant features of the disease, and when occuring suddenly, attended with a slow, and full pulse, slow, oppressed, and Stertorous Respiration, may be considered in the great majority of cases, diagnostical of an apoplectic condition, Spasm and convulsions are sometimes present, and immobility of the Pupil, or its comparative insensibility to the stimulus of light, is almost invariably present, its permanent contraction, is regarded by some as indicative of an unfavorable termination, more so than the dilatation, In some cases Paralysis of the sphincter muscles takes place, and the fæces are involuntarily discharged
The morbid appearances revealed on dissections, and in many cases the absence of any, have given rise to much discussion, in regard to the proximate cause, and occasioned considerable difficulty, in the definition of a disease, which by some, is restricted to the occurrence of sanguinous effusion, but by most authors is refered to various symptoms arising from different conditions of the Brain, or its meninges, and as before remarked, existing in some cases, where the autopsy revealed no morbid condition whatever, but are nevertheless sufficiently well marked, and violent, to produce a fatal termination
These morbid appearances may be refered to five distinct heads, first the absence

of any diseased appearance, the Brain and Meninges appearing perfectly healthy, or at least out of all proportion to the effect, Secondly, the Vessels of the Substance and membranes are highly injected with Blood, thirdly effusion of Serum, more or less considerable in the Arachnoid and Ventricles, fourthly extravasation of Blood, fifthly softening of a portion of the nervous mass, the last four conditions may evidently coexist, That the condition first mentioned, and which has as before remarked, given rise to much discussion in regard to the proximate cause of a disease, attended with the usual manifestations of apoplexy, but without any appreciable lesion within, may be productive of a fatal termination under symptoms strongly resembling true apoplexy, has been well ascertained and is now generally admitted, the cases mentioned by Louis, Gendrin, Wilson, Cooke and Abercombie, are conclusive on this point, Hildenbrand observed that death resulting from Apoplectic symptoms which arose in the course of Typhus, was unaccompanied with appreciable lesion of the Brain, and similar symptoms result from its concussion, from excessive cold, the action of Narcotic Poisons, and Lightning without effecting any change which can be recognised on dissection, The congestive form is often found complicated with extravasation of Blood and Serum, and undoubtedly depends on the degree to which the distended Vessels have succeeded in relieving themselves, either by a transudation of their contents, or the laceration of their coats, but excessive engorgement alone is often sufficient to produce death, this occurs in Sunstroke, and Andral has recorded cases, where a similar condition caused death in the last stage of Phthisis, where instead of Plethora, there evidently existed an anaemic condition of the circulatory system, Apoplexy from excessive engorgement, has been supposed to be the cause of death, in a large proportion of Infants, Effusion of Serum must result from a simple transudation as in Dropsy, by getting clear of a portion of their contents, laceration of their coats is prevented and the over distended Vessels at the same time relieved, Extravasation of Blood is by far the most

common morbid condition observed, and constitutes, what is by many styled true San-
-guineous Apoplexy, the amount of effusion, varies greatly in different cases, it may be half an
ounce, or several ounces, and we may suppose that the intensity or mildness of the symptoms,
will be in some degree proportionate to the quantity of the effusion, Sanguineous Apoplexy is
a frequent cause of death to Infants, the effusion being generally found at the circumference of
the Cerebellum, In Adults, the extravasation has been observed in the Meninges, the Ventricles,
and Substance of the Brain, generally however in the Substance, and confined to particular portions
of it, as the Corpora Striata, the Optic Thalami, and occasionaly the Hemispheres, this effusion
is sometimes found connected with a morbid fragility of the Arteries, a condition which most
frequently exists in old persons, If the Patient has been subject to previous attacks, Cysts
circumscribing the effusion, which is more or less absorbed, will in most cases be found
corresponding in number to the previous attacks, the effusion having in some cases been comple-
-tely absorbed, and the Edges and Sides of the Cyst approximated, so as to present the appearance
of a cicatrix, this favorable occurrence however is comparatively rare, and cannot therefore
be deemed worthy of much consideration, in forming a prognosis as to the Chances of complete recov-
-ery from Sanguineous effusion, Since the absorbing power of the Vessels, is seldom capable of effecting
complete removal of the extravasation, and thus get rid of a foreign Substance, which impairs
the integrity of a part, the proper performance of whose functions, is essential to the well being
of the individual, That Apoplexy may result from softening of the nervous mass, will appear
evident if we consider the process which is going on within a highly vascular tissue, whose
Vessels are constantly exposed to a cause, well calculated to produce ulceration of their coats,
and cause determination to the Brain, much difference exists in the appearance of the
diseased portion, as well as its consistence, sometimes varying but little from a healthy appear-
-ance and consistence, at others completely disorganised, soft, or fluid in its character, this
softened condition must in all probability result from chronic inflamation, which may have

been originated by some known exciting cause, or be the result of a previous effusion, attended or not at the time, by evident Apoplectic Symptoms, of the diseased condition of other organs complicated with Apoplexy, those of the Heart and Lungs appear of the most importance as having a direct influence in producing the disease, or aggravating and fomenting a cure —
The Heart is frequently found Hypertrophied, the Pericardium thickened, or an effusion between its layers, The Lungs may be congested, hepatised, or their circulation obstructed by the deposition of foreign matter in their substance, or the mucous membrane of the Bronchia thickened and indurated. With regard to the connection which is supposed to exist, between some external manifestations, and the location of the lesion within, then appears from an examination of many cases by different observers, that we can with some degree of certainty, diagnose the location of the disease, by its coincidence with the external affection, thus lesion of the Corpora Striata generall coincides with Paralysis of the upper Extremity, and that of the Optic Thalami with Paralysis of the lower —
From what has been already observed, it will be seen, that I have not attempted to restrict the term Apoplexy to Spontaneous Hemorhagic effusion in the Brain, but have applied it to a combination of Symptoms, whose existence may depend on several different conditions of the Encephalic mass, independent of extravasation, and indeed sometimes without the appearance of any disease whatever, on Post mortem Examination, but since congestion, effusion of Blood or Serum, Ramollissement, the presence of Tumours within the cranium, or Spiculae of Bone driven in by external violence, must give rise to the Apoplectic Symptoms, by direct contact with the nervous mass sufficient to disturb the performance of its functions, or disorganise its structure, when the irritation exists for any length of time, producing violent compression of the Substance, and interruptions in the Circulation of the Brain, we may I think with propriety, refer the peculiar Symptoms which characterise Apoplexy, to the Suspension, or want of the usual and proper stimulus which the

Blood affords to the Brain, whose access is prevented by any Agent sufficient to arrest or interrupt the passage of Blood through the Cerebral Vessels, and with it, that degree of healthy Excitement, necessary for the due performance of the functions of Animal and Organic life, hence we may suppose, that the violence of the Symptoms will be, in great measure proportionate to the amount of compressing force, and consequent interruption to the Circulation which ensues, and that the occurrence of Paralysis in one case, and convulsions followed by a restoration to health in another, depends on the degree of violence and permanency of its action, From the different conditions of the hearts action in Syncope, and intoxication, the first being characterised by pallor of the countenance, great fulness of Pulse, and partial or complete suspension of the hearts action, and the latter by a flushed countenance, full bounding Pulse, and energetic action of the Heart, it would appear, that Cerebral engorgement may result, either from increased or diminished action of the Heart and Arteries, producing in the one case congestion of the Cerebral Arteries, and in the other of the Veins, as that in Syncope, the suspension of consciousness, may result from the temporary deprivation of the accustomed Stimulus to the nervous mass, the Autopsy in these cases, often fails to reveal any morbid condition, sufficient to account for the consequences which have resulted, but we are not on this account warranted in asserting, that no engorgement existed prior to death, for the congested vessels may have succeeded in relieving themselves in articulo mortis, and thus present a natural appearance, or it may result from the position of the Body, and mode of conducting the examination

Among the predisposing causes of Apoplexy, may be reckoned, Age, Sex, Occupation, hereditary predisposition, sedentary habits, indulgence in the pleasures of the

Table or intoxicating liquors, extremes of heat and cold, immoderate excitement of the passions, suppression of habitual discharges, diseases of other organs especially of the Heart and Lungs, causing accumulations or determinations of Blood in one instance to the Brain, and obstructions to its return in the other —

From the observations of different Authors in many cases of this disease, it would appear, that Sex exerts considerable influence over its occurrence, and that it is much more common among males than females, and in regard to age, experience has shown that it is much more likely to occur in the latter, than the early periods of life, for we find, that persons from fifty to Seventy are far more liable to its attacks, than the youthful or middle aged, though as has been already remarked, death from apoplectic symptoms often takes place in newborn infants, Hereditary predisposition as connected with peculiar conformation of the Body, has been sufficiently often observed, to entitle it, to be ranked among the predisposing causes of Apoplexy, though many exceptions to this conditions undoubtedly exist, for we often find it, attacking persons of a thin and spare habit of Body, conjoined with a Lymphlegmatic temperament, as well as those of Short Stature, large heads, thick short necks, expanded and prominent Breasts with corpulency of habit, redness of face, activity of the Circulatory System and Sanguine or Sanguinobilious temperament, Sedentary habits conjoined with indulgence of the appetite, it is easy to see, exert considerable influence, in predisposing to the affection, by causing obesity, and Plethora of the circulation, Extremes of Heat or Cold, intemperance of the Passions, immoderate use of intoxicating liquors, Suppression of ordinary discharges as the curing up of Hemorrhoids or chronic ulcers, and Hypertrophy of the Heart, or Morbid deposites in the Lungs, may by producing inordinate determination to the Brain, or obstructions to the return of its Venous Blood, contribute to that Sanguineous engagement of the Encephalon, which undoubtedly forms the essential

pathological conditions of the Apoplectic State, Predisposing causes by their sudden application, often become the exciting, thus an habitual Drunkard may be supposed predisposed to the affections, which is liable to be developed by a slight exciting cause, in this state an additional supply of the alcoholic stimulus beyond what he has been accustomed to, may prove sufficient to develop the Apoplectic symptoms, Excessive doses of the Narcotic Poisons, sudden exposure to a high temperature either of Artificial or Solar heat, as occurs in cases of Sunstroke, violent passion, Grief or Joy, and distension of the Stomach with stimulating or indigestible articles of food, and external violence to the Cranium, may be enumerated, among the exciting causes of apoplectic symptoms, Metastasis of Gout, Rheumatism, and Cutaneous affections also occasionally develop the disease, The Diagnosis of Apoplexy, is not ordinarily attended with much difficulty, it may not be so easy however, to ascertain the exciting cause, when it arises from an overdose of alcoholic stimulants; the odour of the Breath will assist the Diagnosis, and if loss of consciousness result from excessive depletions ending in Syncope, or from Asphyxia, the comparative strength, frequency and regularity of the Pulse, and Respiration will serve to point out the peculiar condition, which has resulted, in a temporary loss or deprivation of consciousness and Voluntary Motion, From the comatose state, which succeeds an attack of Epilepsy, or Hysteria, in some instances, it will be distinguished, by the previous symptoms and history of the case, but when loss of consciousness results from an excessive dose of a Narcotic, or the inhalation of deleterious Gases, we may in some cases find it impossible to discriminate between them, unless we are aware, of the previous exposure of the Patient, to their influence The Prognosis in Apoplexy is unfavorable, in Many cases, death occurs before any palliation of the symptoms is observed, Sometimes immediately, at other varying with the intensity of the symptoms, at different periods from the occurrence of the

attack, In other cases, great amendment may be obtained in all the symptoms, and the Patient appear relieved and removed from immediate danger, though death will afterwards result, from the changes which have taken place, subsequent to the effusion, Complete recovery however from apoplectic attacks is by no means uncommon. Among the unfavorable symptoms, may be enumerated, oppressed, irregular, and Stertorous Respiration, frequent and irregular Pulse, Dysphagia, Cold Extremities Cold and clammy Perspiration of the face and Breast, foaming at the mouth as in Epilepsy, immobility of the Pupil, Continuance of deep Coma beyond Twenty four hours, effectually resisting the appropriate treatment, involuntary discharges of faeces or Urine, General Paralysis, with attacks of Vomiting, If the attack be mild, we ordinarily find the Pulse soft and regular though slow, the Respiration slow and regular, but unattended with Stertor, Deglutition unimpaired, the temperature of the Extremities natural, and the Patient in a short time recovers his consciousness, and the restoration of the various functions which have been suspended during the attack, liable however to a relapse, or a recurrence of similar attacks, which may ultimately destroy life, or end in complete Idiocy

In the treatment of a disease, whose essential Pathological condition consists in obstructed circulation through the Cerebral Vessels, the result generally of some compressing force, we shall sometimes find, although the great indication is evidently the relief of the nervous mass from the oppression under which it labours, that the means usually resorted to for this purpose are inadequate for the desired effect, or tend to aggravate the symptoms they were designed to cure — these cases will be found to require the sustaining or stimulating mode of treatment, instead of the depleting, but a correct Diagnosis of the peculiar form of the disease and proximate cause deduced from the external manifestations, will be found

of essential service in the management of the symptoms, and conducting the healing to a favorable termination. It has been already remarked, that apoplectic symptoms are frequently observed, to result from excessive depletion, consequent on hemorrhage from different parts of the Body, except of the natural secretions, or morbid discharges in the course of other diseases, as Typhus, and Phthisis Pulmonalis, where a debilitated state of the General System, and attenuation of the Blood, must necessarily exist, which will of course counterindicate further depletion, in the healing of symptoms, dependent on an exhausted state of the vital forces, and consequent prostration which attends it, and not on Plethora of the circulatory system, energetic action of the Heart and Arteries, robust health, and vigorous performance of the various functions of animal and organic life, the treatment will be essentially different, indeed we may almost say diametrically opposed, in the first case as already observed, further depletion would tend to aggravate, in the latter, it is found the most efficient means we can employ. If the Patient be robust and plethoric, with an active circulation, Blood should at once be drawn from the Arm, to an amount, sufficient to make an evident impression on the Pulse, where however debility joined with languor of the circulation exists, venesection cannot ordinarily be practised, with safety to the Patient. In such cases, Cupping or Leeching is our next resort, for the purpose of direct depletion, Cupping is preferable in most cases, on account of the promptitude with which it acts, since the great value of our remedies in this disease, depends on the readiness with which we employ them, where the symptoms are mild and, debility of the General health is combined with fullness of Pulse, Purgatives, restrictive Diet, and the avoidance of the usual exciting causes, will be found sufficient for the restoration of consciousness, and the various functions which have been temporarily suspended,

and will serve also to prevent a recurrence of the attack, if they be resorted to, as soon as, the premonitory symptoms appear, or if an attack cannot be wholly prevented, its violence may by the timely use of appropriate means, be greatly mitigated thus apoplectic symptoms coming on soon after eating a hearty meal, or where alcoholic liquors have been freely used, will often be cut short, by the administration of an active Emetic preceded or accompanied with Venesection, to prevent the great determination to the Brain which Vomiting produces, If the symptoms have made their appearance soon after the suppression of some habitual discharge as Hemmorhoids or Chronic Ulcers, it is advisable to restore those discharges immediately by leeching or Blistering the parts, and similar treatment should be adopted in metastasis of Gout, Rheumatism, Erysipelas and other Cutaneous affections, when these prophylactic measures are insufficient, or an attack suddenly occurs, with little or no warning of its approach, it will be found, as before remarked, that the great value of the treatment we may adopt, will depend essentially on the promptitude of its application, it should at the same time be energetic, for it is evident, that suspension of consciousness and Voluntary motion cannot long exist, without serious detriment, if not the destruction of the Patients life, as a preliminary step, it is advisable, to place the Patient in a recumbent position, with the head and shoulders raised, to remove any thing from his neck and Breast, Calculated to obstruct or impede the Circulation, and allow cool and fresh air to circulate freely around him, then if the Pulse is full and strong, accompanied with throbbing of the temporal and Carotid arteries, flushed face, and injected Eyes, immediate Venesection sufficient to make a decided impression on the Circulation should be practised, the amount will be regulated by the strength of the Pulse, and Constitutional vigor of the individual

Should the symptoms not abate, and the strength and fulness of the Pulse return, a repetition of the Venisection may be necessary once twice or oftener, especially in plethoric Patients of robust health and vigorous circulation, bleeding however may be carried too far, and after the first or second repetition, great caution is necessary in its employment, for the vigor of the vital actions becomes so much impaired in some cases, that a tonic and stimulant plan of treatment will be found absolutely necessary, to prevent collapse, this caution is particularly necessary, in treating Patients advanced in life, emaciated, or infeebled by previous disease, especially organic affections of the Heart, where the force of the circulation and its activity depend on this affection, and not a condition of Plethora By many bleeding from the temporal arteries or Jugular veins is preferred to venisection at the bend of the arm, and perhaps in some cases this mode of depletion may be preferable, in the great majority however, common venisection will be found to answer every indication, which can be obtained by either of the other methods, and it has the advantage of being more easily performed, If blood cannot be obtained from the arm, then the Temporal artery, or the Saphenous vein of the Leg may be tried and the flow of blood in the latter case, assisted, by immersing the feet in warm water, in mild cases, we may employ leeching on the temples, or back of the neck, should it be deemed unnecessary or improper to resort to Venesection, Purgatives are proper in all cases, they should be administered immediately with or without venesection, and as great difficulty sometimes exists to their exhibition by the mouth, and we are compelled to give large doses, on account of the comparative insensibility of the Intestinal canal to ordinary doses, it will be advisable to make use of the croton oil, for this purpose, two or three drops placed on the Tongue will usually be found sufficient for the desired effect, as we may assist

its action by an enema, which indeed may be used in all cases with propriety and advantage, the Cathartic may also be administered by the use of a Gum Elastic Tube introduced through the Mouth or Nares, In conjunction with these remedies the head should be shaved, and Cold applied to its Surface, by means of pounded Ice, inclosed in Bladders, whilst warm or Stimulating applications, by means of hot Bricks or Sinapisms are made to the extremities, Some Caution is necessary not to keep the Cold too long applied to the head, the subsidence of the Symptoms however, and the manifest Change for the better, which usually results from this application, will guide us in this respect, Should these remedies succeed in reviving the Patient, and restoring Consciousness and Voluntary motion, still great care will be required, to avoid all causes, which will tend in the least to produce a recurrence of the attack, and if symptoms of prostration appear, a resort to Tonics and Stimulants may be absolutely necessary, to sustain the Vital Powers, their exhibition however is not without danger, and their effects on the System should be watched, and closely attended to, to prevent the recurrence of an attack, to which there is great liability during the first fortnight, In these cases the Bladder should be examined, and if retention of Urine exists, a resort to the Catheter will be necessary, In cases attended with a small weak, and irregular pulse, a pallid and sunken Countenance, deep Coma, or Stertorous Respiration, the temperature of the head remaining natural, the depleting Course recommended above, would tend to aggravate the Symptoms, and, perhaps be productive of death, here the System should be sustained by mild Stimulants, such as Sulphuric Ether, Carbonate of Ammonia, or small quantities of wine, the nostrils may be stimulated with Aqua Ammonia or other Volatile Substances, Cold water sprinkled on the face and Insufflation Encourage well aid in restoring consciousness, to these may be added

Blisters to the Temples or behind the Ears, and stimulating applications to the Extremities. The beneficial effects to be obtained from Emetics in this disease, appears to be confined to those Cases, which supervene soon after a hearty meal, especially if the ingesta be of a stimulating or indigestible nature, or where narcotic poisons have been taken or intoxication exists, by unloading the stomach, they diminish indirectly the sympathetic irritations, which has given rise to the apoplectic Symptoms in the Brain, it is always advisable however, to precede, or accompany them with Venesection. Cases attended with Torpor, or derangement of the Biliary Secretions, will generally be benefited by the use of mercury, so as to produce slight Ptyalism, by some it is thought to promote the absorption of the extravasated fluid, after the more active symptoms have declined, stimulating frictions or liniments in Cases attended with weak and feeble pulse, and much depression of the vital actions, will be sometimes found of service, in restoring tone and vigor to the System.

To prevent a recurrence of the apoplectic attacks, to which there is great liability, it is important for the Patient, to attend to the prophylactic means, which have been found most efficient for that purpose, these consist in the use of a light and digestible diet, moderate exercise, abstinence from stimulating drinks, and the avoidance of every thing calculated to excite sudden mental emotions, or great fatigue of Body, he should rise early, avoid indolence and sedentary habits, make use of small venesections when a tendency to Plethora exists, and mild aperients to regulate his Bowels, and promote to a moderate degree the various natural secretions, or those, to which the System has by use become habituated, and the sudden arrest of whose discharges can seldom be borne with impunity.

An

Inaugural dissertation

on

Menstruation

Submitted to the Faculty of physic

of the University of Maryland

for the degree of

Doctor of medicine

by

N. F. Anderson

of Sumter county

Alabama

Alms house

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Menstruation

That every bitter has its sweet and every rose its thorn, is an adage to which the experience of mankind has given common currency; and the rule holds equally good with regard to the subject under consideration, for if the menstrual evacuation is a source of great annoyance and discomfort to the modest female during the period of its flow, it is nevertheless the fact, that her health and her happiness materially depend on the regularity of its return. The extensive sympathy which the uterus has with the stomach, the brain, and the nervous system in general, furnishes of itself a sufficient cause to explain why the two former organs and the latter system, have their functions deranged, when there is either organic or functional disease of the womb; and, on the other hand, the uninterrupted good health which the female generally enjoys, when her monthly evacuation is of normal quantity and quality, is good negative proof, that irregularity in this particular, is the cause of the suffering and anxiety so frequently experienced. Without discussing the opinion, as to whether the uterine discharge is owing to a certain plethoric state in the female, is the result of circumstances which flow from human institutions, or is peculiar to the human female, we shall take for an established fact, and one in which the large majority of the profession coincide, that it is a discharge, to which nature, in every age and country, has made woman subservient, whenever she has the ca-

pacity of reproduction. It seems also to be a well established fact, that the period of life at which the menstrual flux supervenes, is different in different countries and climates - so also does climate have a decided effect on the time of life at which it ceases. The age at which it makes its appearance in the northern part of the temperate, and in the frigid zones, would seem, from high authority, to average from eighteen to twenty four years of age, while, in the temperate and torrid regions, the period varies from nine or ten, to ~~[illegible]~~ sixteen or eighteen. In a treatise "On the natural history of menstruation" by Mr Roberton*, in the thirty eighth volume of the Edinburgh Medical and Surgical Journal, we have the following result of the ages at which it commenced in 450 cases -

10	menstruated for the first time at	11	years of age	
19	"	"	12	"
53	"	"	13	"
85	"	"	14	"
97	"	"	15	"
76	"	"	16	"
57	"	"	17	"
26	"	"	18	"
23	"	"	19	"
4	"	"	20	" "

In Boismont's work, among many other interesting facts, the author gives us a table of ages at which menstruation commenced in Paris, Lyons, Marseilles, Gottingen &c. He gives us the results of 2352 cases, and his table goes to show, that by far the greatest number

* of Manchester

of women begin to menstruate during their fourteenth and fifteenth year, and that the proportion diminishes both above and under that age.

Like all other questions connected with the physiology of the generative apparatus, that which refers to the source of the menstrual discharge, has been much discussed, and opposite opinions have been advanced by the most distinguished writers. It would be entirely useless for me in this thesis to examine into all the different theories and speculations, that have heretofore been advanced, in regard to the source and causes of menstruation, for this would be a task both laborious and unprofitable. The most plausible theory ~~with a~~ with regard to its production, is, perhaps, that which attributes it to the lining membrane of the Uterus. This, however, can only be received as a general rule, to which there are occasional exceptions. That the mucous membrane of the Uterus is the usual source of the discharge, there can be no doubt, since it has been proved by repeated observation, and yet its occasional appearance during pregnancy, as conclusively proves, that its seat is sometimes in other parts of the genital organs, and, indeed, Velpeau, Desormeaux and others, have seen it exuding from the mucous membrane of the vagina, just behind the vulva; and hence it is, that Velpeau calls menstruation "a sanguineous discharge from the sexual parts". It has been supposed, and I believe this is the generally received opinion at the present day, that the menstrual flux is caused by, or dependent on, some periodical change taking place in the ovaries. It is thought, that at each menstrual period, an ovarian vesicle is burst, and it has hence

been infered, that as long as conception exists, there is a constantly & successive developement of vesicles in the ovary, and, at each menstrual period, one of these vesicles, having reached the surface of the ovary, becomes the seat of a peculiar organic action, in which all the genital organs participate, and that the result of this action, is the rupture of the vesicle, and the loss of the contained ovule, it being either passed from the uterus during the flow, or destroyed in the ovary. This, however, is nothing more than supposition, for it has not yet been proved satisfactorily that the ovarian vesicle is ruptured, at the time of the menstrual discharge. Dissections, however, of the ovaries of women who have died during the period of their menstrual flux, give evidencies that some such change must have occurred in these organs. That the ovaries have their share, or rather that they are implicated to a great extent, in producing this discharge, there certainly can be no doubt, as it is well known, that in congenital absence of the ovaries, or, in those instances, where they have been extirpated, the menstrual flow never appears. As a farther proof that the ovaries are intimately connected with this function, I shall proceed to quote several cases, collected and mentioned by Huston of Philadelphia, in his late edition of Churchill's system of Midwifery.

"In the examination of the body of a woman, who died during her monthly discharge, the left ovarium was found to be much larger than the right, and, at one point, a smale circular opening, with a thin irregular edge, was observed in the peritoneal coat, which led to a cavity of no great depth in the ovarium. Around the opening, to an extent of three or four lines, the surface of the ovarium was of a bright

red colour, and considerably elevated above the surrounding part of the peritoneal coat. On cutting into the ovarium, its substance, around the opening and depression, was vascular, and several Graafian vesicles, of different sizes, were observed.

"In the ovary of another woman, who died during her menstrual evacuation, a red, soft, elevated portion was observed, and, at one part, the peritoneal coat, to a small extent, had been removed. The edge of the opening was extremely thin and irregular, and, in the substance of the ovarium, under the opening, was an enlarged Graafian vesicle, filled with transparent fluid. Numerous small bloodvessels were seen, running along the peritoneal coat of the ovary, to the opening. On laying open the substance of the ovarium, several vesicles, of various sizes, and of different depths, were found imbedded in it. The left ovarium presented a natural appearance.

"In a third woman, who died during the same state, both ovaria were remarkably large, and both fallopian tubes were red and turgid. The peritoneal coat of the left ovarium, was perforated at that extremity which was nearest the uterus, by a circular opening around which aperture, for several lines, the surface of the ovarium was slightly elevated, and of a bright scarlet colour. The margin of this opening was thin and smooth and did not appear to have been produced by any external force. Its centre was slightly depressed below the level of the edges, but there was scarcely the appearance of a cavity beneath.

"In another case, the right ovarium presented the appearance of one of the Graafian vesicles having been ruptured. A small part of the surface was distinguished by a dark stain upon it, and here the peri-to-

neal coat was slightly elevated, and the ragged edges towards the centre of the stained spot were of a particularly black colour."

Periodicity - As regards the return of the menses, after their first eruption, we may safely assert that they come on at intervals of from twenty six to thirty days. The large majority of females menstruate every lunar month, altho it not unfrequently happens, as observed by Churchill, Dewees and others, that some women are subject to the discharge at intervals of much less duration. It is uncertain whether climate has any effect in causing the returns to be more frequent in their appearance, altho' it seems to have a decided effect, both as to the quantity of the discharge, and to its primary eruption. In those bleak and frozen regions, which border on the arctic circle, the womb and the sexual organs in general, are in a state of comparative inactivity. Indeed, nature seems to have chilled in her children, in this portion of the world, that propensity which leads to sexual intercourse, and to have made them partake as it were, of the cold and barren state of the atmosphere which they breathe and the soil they inhabit. In these regions then, the lessened quantity of the menstrual evacuation, is, perhaps, owing to want of action in the Uterus and reproductive organs, which is most probably caused by the languid circulation, to which those parts are accustomed. Reasoning on this principle, we should infer, that females inhabiting the equatorial regions, would, from the precocity of their developement, be subject to a constant immoderate flow of the menses. This would, indeed, seem to be in accordance with the observations of many practitioners, in southern latitudes, and, yet, both Gardien and Dewees maintain, that in tropical, as well as in northern regions,

the discharge is less than in temperate climates. Baudelocque and Velpeau, are both opposed to this latter assertion, and, indeed, it is an indisputable fact, that the relaxing effects of a warm climate, which seems to debilitate every other part of the system, induce an increased circulation and inordinate action in the sexual organs. That the menstrual secretion should be augmented under such a state of things, seems reasonable enough, and in a state of health, the uterus does secrete a larger portion at each return of the menses, than it does in temperate or cold countries. But, it is nevertheless the fact, and it cannot have escaped the observation of those physicians who have practiced in Southern climates, and, especially, in the Southern parts of the United States, that the menstrual secretion is often less than it should be. This, however, according to the opinion of many, most frequently occurs from Uterine disease, which is so frequent in this part of our republic.

Before proceeding to mention the signs of the appearance of the menstrual secretion, it may be well to remark, that, as a general rule, it occurs at an earlier age in large and populous cities, than it does in the country. The impure air, the unwholesome regimen which appertains to large cities, the lascivious books, prints &c, together with the early age at which females enter society, have a decided effect in inviting an earlier appearance of the menses, than is found to exist in those, who have been brought up in the wholesome atmosphere, the free exercise and the general simplicity of rural life. With regard to the latter, Nature, as if grateful for not having been abused, withholds the capability of reproduction, until they are both morally and

physically competent, to bestow that attention and care, which the early moments of the offsprings existence, seem necessarily to demand. The signs and symptoms which precede the first menstrual eruption, and denote its approach, are as varied as are the temperaments, the habits, the dispositions of those, in whom they appear. While one will suffer but little inconvenience, and indeed will not suspect the discharge until a thin, serous fluid makes its appearance from the vagina, another will have strong nervous symptoms. A third will be troubled with the rushing of blood to the head, and be affected with numerous other ills. Frequently, we meet with cases which put on an alarming aspect, and would seem to threaten the life of the patient, were it not that, sooner or later, they all subside, and immediately after their disappearance, the menstrual flux comes on, and all is well. Among the most marked symptoms which indicate the approach of the menses, in some females, there may be mentioned, loss of appetite, tinnitus aurium, the peculiar jerking of chorea, preternatural flow of blood to the head, wandering pains, pain in the pelvic region accompanied by a bearing down sensation, and many other symptoms which belong to the nervous and vascular systems. There is also, in many instances, languor and lassitude, dark shade under the eyes, and, not unfrequently, a smart attack of fever. As regards the duration of each menstrual period, we may say, it varies from three, to sometimes as many as seven or eight, days. The quantity also varies, according to the temperament and constitution. The average is probably from three or four, to seven or eight ounces, discharged gradualey. Climate, however, as before remarked, exerts an influence in regard to the quantity, it being, as a

general rule, profuse in warm climates, and scanty in the more northern regions. The secretion has generally a faint odour, tho' sometimes it is entirely odourless. It has very much the appearance of venous blood, being of a dark red colour. It differs from blood, however, inasmuch as it contains no fibrine, and hence it is not coagulable. It is asserted also, that it has the power of reddening litmus paper, and contains free phosphoric and lactic acids, together with some phosphate of lime. The period of cessation of the menses, is generally termed the "turn or time of life" and this period is regarded by many, as a very critical one, inasmuch as carcinoma of the os uteri, and other diseases, sometimes make their appearance at this time, but, from the researches of many writers on this subject, it would appear, that the mortality at this period of life among females, is not greater than among males of the same age. When this period arrives, it is denoted by the evacuations beginning to grow scanty in quantity, and irregular in its returns, and, finally, ceasing entirely. About this time, the breasts are apt to diminish in size, and, it is asserted, ~~also~~ that the ovaries also become smaller, and the uterus is contracted to an almost schirrous hardness. Conception is now no longer possible, and, indeed, the state resembles, in many respects, that before puberty. In this country, as a general rule, we may say that the menses cease to flow, between forty and fifty years of age, tho' exceptions to this rule, are frequently met with, the evacuations ceasing to appear sometimes at thirty and thirty five, at others, continuing as late as ~~[illegible]~~ the sixtieth or sixty fifth year. I again quote from Mr Robertons essay, a table, showing the

result of his observations on the period of cessation, in seventy seven women. In one at the age of 35

4	"	40	In 26 at the age of		50
1	"	42	2	"	51
1	"	43	7	"	52
3	"	44	2	"	53
4	"	45	2	"	54
3	"	47	1	"	57
10	"	48	2	"	60
7	"	49	1	"	70.

Having now treated at sufficient length of this function in its natural state, I shall next proceed to examine into the symptoms, causes and treatment of one of its principle disorders, viz., Amenorrhea. Two distinct forms of this disease may be pointed out. 1st. that form, in which the discharge has never made its appearance, constituting retention of the menses. and 2ndly, another, in which, after having appeared, they become obstructed, constituting what is termed suppression of the menses. and first of

Retention = emansio mensium.

It sometimes happens that a young female arrives at the age of puberty, becomes well developed, and has all the appearance of womanhood, and yet has never menstruated, altho' months, and sometimes years have passed, beyond the usual time, at which the discharge makes its appearance. Women, who always have mysterious ideas with regard to menstruation, and are prone greatly to overrate the importance

Result of this observation on the theory of centralization seems to show:

In one at the age of 35

4	"	40	In 36 at the age of		50
1	"	42	3	"	51
1	"	43	7	"	52
3	"	44	9	"	53
4	"	45	9	"	54
3	"	47	7	"	57
10	"	48	3	"	60
7	"	49	1	"	70

Although were treated at sufficient length of this function in its natural state, I shall need however to examine into the supposed cause and treatment of one of its pathologic distraction, viz., the so-called Also distinct form of this disease may be distinct not. It that form in which the discharge has never made its appearance, constituting the lesions of the uncured. Being simply another in which, after having appeared, they have subsided, remaining what is termed suppression of the menses. Any part of

(Patients = remarks measure)

It sometimes happens that a young female arrives at the age of puberty, commences overflow, and has all the appearance of woman hood, and yet has never menstruated, either normally, and sometimes passed from childhood, beyond the natural time, at which the discharge ought to appear. It may, indeed, happen that menstruation has ceased for some other reason, and yet the lesions peculiar to menstruation

and consequences of slight irregularities, are never satisfied, if a young girl reaches the age of fourteen or fifteen, without becoming the subject of the Uterine discharge - It is true, that we occasionally meet with cases, where the most lamentable consequencies flow from a Retention, and where the young and promising female, becomes the unfortunate victim of disease and premature death. But, it is nevertheless the truth, that a female may pass the fifteenth, sixteenth and seventeenth years, without menstruating, and yet neither suffer from bad health, nor furnish any remarkable deviation from the course of nature - But, as the experience of some of the older members of the family, as well as the records of medicine, furnish an occasional sad picture of the consequencies of retention, the physician is frequently consulted, and requested to use the means of bringing on the catamenial flow - The cases in which he is consulted, may be divided into those, in which he ought not to interfere at all, and those ~~in~~ which require remedial means - When a young female is presented to him who bears the appearance of good health, appetite unimpaired, and free from all that train of sympathetic affections, which occasionally attend retention, it is his duty, not to interfere with the case, and it is more than cruel to subject his patient, to a course of medical treatment, in order to bring about that, which will foil his attempts, and which nature, doubtless for some wise purpose, has, for a season, suspended. If the statement of the fact as it is, does not allay the fears of her parents, it becomes the physician to practice the art of deception - a practice, certainly, at which every conscientious member of the profession recoils, but which sometimes is justified by the

dictates of sheer humanity. It is much better, then, to give, from time to time, a pill or potion of some inert substance, and to assure the parties that all is coming on well, than to give up the case, and have the health of the individual sacrificed, by the hurtful nostrums of the pretending quack. But sometimes a case wearing a different aspect falls under his charge, and instead of doing nothing at all, his most consummate skill is called into action. Instead of the healthy tint which blushed upon her cheek a few months since, the countenance of the young female now wears a pale and sallow appearance, she forgets her youthful sports, seems weak, debilitated, and wastes away. Her usual anorexia occasionally gives place to the most unnatural desire for food, and sometimes sand and clay are eaten in large quantities. Headache, dropsy, constipation, frequently ensue, and numerous diseases have been known to develop themselves in the chain of sequencies. Under such circumstances, the treatment must of course be determined by the cause of the retention, if this can be ascertained. A plethoric habit will indicate the abstraction of blood, either generally or locally. The latter is preferred by Dr McIntosh. This writer, together with Dewees and others of equal celebrity, recommends the Tincture of Cantharides in retention of the urines, and, from the confidence with which many practitioners speak of this remedy, it must doubtless be a valuable article in the treatment. The dose varies from ten to thirty drops three times a day. It frequently produces a painful strangury which indicates its suspension, as well as the administration of some diuretic combined with a soothing

~~[illegible]~~ demulcent - A most excellent remedy for strangury is tea made from parsley root, to which may be added a smale quantity of spirits of nitre - The use of madder is also recommended by Dewees and others - The state of the bowels should always be attended to, and they should be kept regularly opened with some mild purgative - Sometimes there seems to be an effort of nature to bring on the catamenia at particular times, and then various remedies have been highly extolled, among which nine seem to be more generally used than the aloetic preparations - The hip bath is here a powerful adjuvant, and should never be neglected - As to the diet of the patient, it should be regulated by the constitution being nourishing in the ~~[illegible]~~ feeble and emaciated, and antiphlogistic in the plethoric and robust - Some writers speak favorably of counterirritation over the pubis and sacrum, and doubtless it is frequently a great assistant. Retention is sometimes caused by mechanical obstruction, and it is of course the duty of the physician to enquire carefully into this matter = Among the mechanical obstructions, may be mentioned, an agglutination of the walls of the vagina, imperforate hymen and imperforate os uteri - The two former must be treated by surgical operations - the latter has been successfully treated by several practitioners, by the introduction of a probe or catheter - into the mouth of the womb -

Suppression of the menses - As Dewees has very properly remarked, we should not always interfere in slight cases of suppression, and indeed this disease seldom becomes the subject of remedial means until the health begins to be affected - There

are various causes of suppression. Mental emotions of entirely opposite states, as joy and grief - weakness from hemorrhage, debility &c. But the most frequent cause is cold - If a woman during the flow of the catamenia, be subjected to exposure, suffer her feet to become wet and cold, her discharge will most probably be stopped, and headache, pain in the loins, rushes of blood to the head, hysterical convulsions and many other nervous systems may supervene. For the relief from agony which the patients sometimes experiences, she is indebted to therapeutics for many valuable means. The tinctures of guiacum and cantharides, the pulvis aloes et canellæ, precipitated carbonate of iron, black hellebore &c &c have been highly extolled for their emmenagogues properties and are doubtless, in many instances, highly useful remedies - Venesection, when indicated by the general state of the system, should be practiced, as the most beneficial effects frequently result from it. But when the discharge has commenced, and has been suddenly checked, either by exposure, mental emotions, or indeed any cause which produces sup-

in there is perhaps no remedy which is entitled to so high a rank, as the tincture of guiacum
medy, so favorably noticed by several writers, owes its general use in practice to Dr Dewees, who re-
ended it almost as a specific. It was not until this distinguished writer on the diseases of fe-
s, had repeatedly tried the tincture of guiacum, and received the most substantial proof of its
cy that he so confidently recommended it to the profession, and enjoined with the hip bath,
dare am almost safe to say, that this article will restore the discharge, if it be in the power of
ine to restore it - Brisk purgation with aloetic preparations has also been recommen-
ing on the secretion, but we cannot help thinking with Churchill, that gentle purga-
equally superior, because there is no fear of the latter producing a discharge sufficient-
to supersede the menstrual secretion.

An
Inaugural Dissertation
on
Fractures
Submitted to the Examination
of the
President, Regents, and Faculty of Medicine
of the
University of Maryland
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This essay is respectfully inscribed to Professor N. R. Smith, hoping that it will be received as a testimonial of the highest respect for his talents, and of affection for the kind and faithful instructor, from his friend, and pupil

The Author

I have chosen the subject of fractures for my thesis, as being one of the most important, as well as the most frequent injury, which comes under the treatment of the physician, the maltreatment of which exhibits itself to the public in bold relief, a living monument of ignorance, and the forerunner of a ruined reputation.

The subject is one of such vast extent that I will be unable to treat of the particular fractures, I will therefore confine myself to some general observations on the nature, causes, symptoms, varieties, prognosis, and treatment of fracture, with a few remarks on Nature's recuperative efforts.

Fracture has been defined, a solution of continuity produced by violence, or powerful muscular action.

The causes are divided into predisposing, and remote,

The situation and action of some of the bones, have been classed among the former of these, thus a bone which is but slightly covered by integuments is more liable to be fractured than one which is thickly covered; the Clavicle, and Radius, might be referred to as examples, their situation, and action, both, rendering them liable to such injuries; the Radius frequently receiving the full force of violence exerted on the hand, being its chief bony support; the Clavicle too is liable to be broken, not only by direct violence, which may act upon it with much advantage on account of its exposed situation, but by the counter stroke, violence being exerted on the shoulder.

Disease, and old age, have also been classed among the predisposing causes, and perhaps are more properly termed so; the following are the diseases which have been enumerated by authors, Syphilis, Carcinoma, Scrofula, Scorbutus, and Necrosis, in some cases of which, muscular action, alone, has been known sufficient to produce fracture. The reason why old age generally predisposes to it, is, that at that time the Calcareous deposite is predominant, Some writers have also enumerated cold among the predisposing causes, they give for their reason, that it increases the

tonicity of the muscular fibre, so that when an individual puts the muscles suddenly, and powerfully into action, to save himself from a fall, or a blow, they assist the violence and the bones are snapped more readily.

The remote causes are a variety of violence, such as blows, and falls, or powerful muscular action, which will sometimes produce fracture in the healthy bone, as occasionally happens in the Patella, Os calcis, and Olecranon, and it is even said that the long bones are sometimes fractured in that way.

The symptoms of fracture are preternatural motion, and crepitus, with diminution of power, redness, swelling, and pain; but no one of these taken separately, unless we except preternatural motion, can be considered as a pathognomonic sign, thus it is stated that the crepitus of effusion may be taken for that of fracture; it is sometimes difficult to detect crepitus, where the bone is surrounded with thick, fleshy parts, or in fact, to ascertain the nature of the injury where displacement has not taken place. Preternatural motion, can generally, though not always, be detected, when it can be, it is a pretty certain sign: Diminution of power, redness, swelling, and pain, are merely collateral symptoms, which are connected with many other severe injuries.

The different species of fracture, is a subject which

requires our particular attention, an accurate knowledge of which, is a prominent guide in the treatment, They have been divided into transverse, oblique, and comminuted, they may also be complete or incomplete, with, or without, laceration of surrounding parts, compound, or complicated, according to the injuries with which they are connected.

A transverse fracture is one which passes transversely through the shortest diameter of the bone. An oblique fracture is one which passes obliquely through the bone. When a fracture is said to be comminuted, we understand that the bone is broken in three or more places. Again there are fractures which are simple, these may be complete or incomplete, Incomplete fracture is seldom attended with displacement, when it is it consists merely in a bent state of the bone, on which our diagnosis chiefly depends, it is probably however but seldom detected with certainty. The second variety of simple fracture, which we have termed complete, may occur without much displacement, or any, unless the fracture be oblique, when there is generally more or less; we can generally diagnose with a good deal of certainty. Again we have a fracture which might be termed simple, connected with some laceration of the periosteum and parts immediately surrounding the bone; this laceration is generally produced by the forcible separation of

the fractured ends, by the continuation of the violence after the fracture is produced, or incautious movements of the part by the patient, or friends.

Compound fractures are some of the most serious with which we have to deal, it is a fracture accompanied with an external wound leading to the fractured bone, this wound may be caused by the violence which produces the fracture, breaking through the external parts, or by their being transfixed by a spicula of bone. What renders this fracture the more serious is the direct communication between the bone and external air. Any of the fractures of which I have spoken may be complicated, thus the fracture may extend into a joint, in which case high inflammation generally supervenes, and frequently notwithstanding the utmost care, anchylosis will take place in a greater or less degree.

The nature and varieties of the displacements which occur in fractures depend upon the bone which is broken, the violence, and degree of violence, the direction of the fracture, and situation of the bone, thus if one bone of either the leg or forearm be fractured, displacement will be much less likely to occur, certainly

not to so great an extent, as though both bones were broken, the bone which remains entire, resisting the action of the muscles, and acting as a splint to the fractured bone,

Among the causes of displacement, the action of the muscles stands most prominent; not the voluntary action, for it is well known that in a case of injury attended with much pain, the patient will use all his endeavours to keep the injured part as quiet as possible, putting it in such a position as to relax those muscles which act directly on it; displacement under those circumstances must therefore be caused by the involuntary, or spasmodic action of the muscles, this spasmodic action is frequently so violent, that the surgeon has the greatest difficulty in producing counter action sufficient to replace the broken fragments; sometimes after reduction is accomplished, this continues proving a great source of annoyance and suffering to the patient, for whose relief we frequently are obliged to administer large quantities of soothing, and antispasmodic remedies.

There are also many accidental causes of displacement after the fracture is produced, such as the gravitation of the limb, or body of the patient, shaking of the bed and many others, which it would be useless to mention.

There are various directions in which displacement

may occur, according to the situation of the fracture with regard to the insertion of certain muscles, the direction which it takes, and the degree of laceration.

The prognosis of fracture will differ according to the part injured, and degree of injury, the kind of violence which produced it, and the constitution of the patient. Incomplete or complete fracture if unattended with laceration, are generally connected with but slight derangement of the patients general health, and recovery is rapid, if attended with a considerable degree of laceration, and the bone gives attachment to strong muscles, or the fracture be oblique, they are more difficult of management, and confine the patient a longer time, they are also attended with more or less constitutional irritation.

Compound fractures are still more difficult of treatment, the prognosis of which depends upon the manner in which the injury is produced, the degree and complication of it, the constitution, and general habits of the patient, long confinement is generally necessary.

Fracture of the lower extremities are generally more difficult of treatment than those of the upper.

Fractures extending into joints, or connected with the wound of a large artery, or nerve, or with dislocation, frequently demand immediate amputation, although under favourable circumstances the limb is sometimes saved. Compound fractures produced by a cannon, or musket ball, are generally connected with so much disorganization of surrounding parts, that it is impossible to save the limb. Fractures occurring in old persons are frequently attended with so much constitutional irritation, that they cause the death of the patient; they are generally very tedious owing to the deficiency of nutrition in the part.

We will now direct our attention to the effects of fracture on the surrounding parts. When a bone is broken by direct violence, the soft parts are generally the first to suffer, but when on the contrary the injury is effected by means of the counter stroke, as for instance a fall on the hand which fractures the radius, the bone is the first that feels the effects of the violence, and the injury to surrounding parts is as it were radiated from it. The [redacted] immediate

effect on the soft parts, is pain, which is caused by the contusion and stretching of the nerves which enter into them; small vessels are torn, which pour out their blood into the cellular tissue of the part; other vessels become more or less distended with blood, probably being weakened by the contusion, and therefor unable to propel the blood so fast as it is thrown into them, tumefaction then is the consequence; the capillaries also become distended and capable of carrying red blood, which causes the redness of which I have before spoken; heat too is more actively generated, on account of the increased vascular action in the part.

Thus we have redness, swelling, heat, and pain, being the four diagnostic symptoms of inflamation, the effects of which inflamation is, more or less effusion of the component parts of the blood, which increasing in proportion to the inflamation keeps up the tumefaction, to the discomfiture of the patient, and the retarding of his recovery, in case therefore that this excess of inflamation takes place, it becomes our duty to endeavour to reduce it, by the use of general constitutional remedies

and application to the part of cold, saturnine, or evaporating lotions. I shall hereafter speak of tumefaction as one of nature's recuperative efforts.

The proper time for setting a fracture has been, and is, even now, a disputed point among surgeons, some allow the limb to lie supported only by a pillow for some days after the injury has been inflicted, to allow time for the inflamation, and irritable state of the muscles to subside. The impropriety of this mode of treatment are said to be, first, that if the muscles be allowed to contract while in a state of inflamation, they acquire a fixed contraction which renders the process of reduction far more difficult than it otherwise would have been, and secondly, the parts in a short time become agglutinated together by the salutary effusion of which I have before spoken; these then must be torn apart, leaving nature to do over again, what at least, must then be an arduous task. There may be cases however in which this would be an advisable treatment, for instance, should high inflamation with considerable tumefaction have occured before we saw our patient, the attempt at reduction might be in-

admissable until they were in some measure subdued, these cases however are but exceptions to the general rule, the surgeon is generally called before inflamation has set in, and it is his duty to immediately replace the fractured bone, and set the limb at rest as soon as possible, thereby not only adding to the comfort of the patient, but giving nature every advantage in her great work.

Now then shall we proceed on being called to a case of fracture? We must depend a good deal upon the history of the case, into which we should particularly enquire, we should know in what manner the injury was inflicted, what was the position of the patient at the time of receiving it, what were his first sensations &c; we will generally discover that there took place immediately a sudden diminution of power in the part, pain in the surrounding soft parts, and frequently the patient will himself announce the existance of fracture, which he detects by the bending of the limb at the place injured, we should proceed to examine the limb, in which we would expect to discover the symptoms already mentioned as diagnostic,

Having thus formed our diagnosis the first object should be to place the fractured extremities in accurate apposition, which we can generally accomplish without much difficulty, unless as I have before stated the muscles have been irritated, and become spasmodically contracted, when they will resist much force, although applied in the most favourable manner, a considerable degree of extension should then be kept up for the purpose of tiring them out, which accomplished, we will probably succeed in our efforts, an apparatus should then be immediately and securely applied, so that it may resist the force of the contraction should it again occur, this fact is particularly applicable in cases of fracture of the femur, in which we must make use of a permanently extending force, by means which I shall mention when speaking of the apparatus to be used in those cases. Having thus set the fractured bone, and applied what apparatus the particular case requires, we should turn our attention to the general health of the patient, if he be a young, robust, plethoric subject, or a high liver, it may be well to take a few ounces of blood from the arm, and administer some mild uninitating purgative, in case

there be sympathetic irritability of the stomach it would be proper to combine it with a little opium. on the contrary if he be old and debilitated, or of a cachectic or broken down constitution, we should endeavour to support him by the use of nutritious and wholesome diet, and use all our endeavours to keep him in a cheerful and composed state of mind, if however, notwithstanding all our efforts, the patient becomes more and more debilitated, and the powers of life begin to flag, it is then our duty to make use of stimulants, of these Ale and Porter are considered the best, but we will frequently have to administer according to the former habits of the patient, and his peculiar taste, so that in case neither of the above mentioned remedies are applicable, we have our choice of various wines or Brandy, of the wines, good old Madeira or Port are considered the best.

Of the other symptoms which may occur, it would be useless, perhaps impossible to name, our remedies must be applied according as they present themselves.

It would perhaps be proper here to speak of the apparatus which are used in fractures, but it is

impossible for me in the short space allotted to a thesis, to treat of the varieties which have been devised and used by surgeons, in the many kinds of fracture which occur. I shall therefore confine myself to those which are used in cases of fracture of the femur, it being a frequent and probably the most important fracture which occurs in common practice, one also which has been until within a short time, and probably is now by many unsuccessfully treated as regards the deformity ~~or non deformity~~ which results.

The first apparatus of which I shall speak is that invented by Desault, which at one time had acquired a good deal of notoriety, and is now used with its modifications to a considerable extent. The original apparatus consisted of one long splint, which was a flat piece of wood, applied by bandages to the limb, with intervening compresses, it extended from above the hip, to below the foot, continued extension being one of the principal objects which it was intended to effect, the upper extremity of the splint was firmly attached to the body by bands passing obliquely between the thighs thus keeping up the counter extension, while others which passed from the ankle and foot to the

lower extremity of the apparatus, effected the extension, short splints were then bandaged to the thigh and the whole enveloped in dressings.

This apparatus was afterwards modified by Drs Physic and Hartshorn, the former continuing the long splint to the axilla in the form of a crutch so as to relieve the perineum from the pressure of the counter extending bands, the latter making use of two long splints. Before making our objections to this apparatus, it may be well, briefly to review the objects that we wish to attain, and the first is, to keep the fractured extremities in accurate apposition until union takes place, and another is that the limb be so fixed that its motions shall be coeval with those of the patients body, and another, that the limb be placed in such an attitude, that the efforts of the flexors, and extensors, may balance each other, the unequal pressure of any part of the apparatus or dressings should also be carefully avoided. The first question then which arises with regard to Desault's apparatus is whether the limb can be so placed in it as to effect the object of balancing the antagonizing efforts of the

two sets of muscles, certainly not, it being perfectly extended on the straight splint, the extensors must be relaxed, while there is corresponding tension of the flexors, this in a measure must counteract the first object which we have in view, that of keeping the fractured extremities in apposition, not only this but it must act quently to the discomfiture of the patient, being as it were a splint to the whole body, keeping him almost constantly in one position, thus rendering him liable to sloughing at various parts of the back, wherever there might be prominent bony projections. another and not less important objection which must be made to it, is that the support does not constitute a part of the apparatus, consequently not moving with it in the unavoidable movements of the patient, there must therefore be more or less motion at the seat of fracture, causing inconvenience to the patient and retarding his recovery.

The other apparatus which have yet some degree of popularity are Amesbury's, Liston's, Cooper's, and Hunter and Earle's fracture bed, beside some more simple apparatus, yet not the less useful, such as the pasteboard angular splint, which may in some cases be used with propriety in the form of the permanent ap-

paratus; yet among all these none appear to answer completely the indications which are presented.

The objections to these apparatus soon presented themselves to Prof Smith, who was the attending surgeon at the Infirmary at the time the public works were in progress in the neighborhood of this city, as it happened accidents of various kinds were occurring every day, in consequence of which the wards of the Infirmary were crowded with patients, not a few of whom were suffering under fractures of the thigh bone; his ingenious mind, under such stimulii, soon devised an apparatus, which answered all the indications that were required, it was soon known, at least by reputation, throughout the United states and Europe and has lately, if I am not mistaken, been introduced into our Army and Navy, and is carried, in case of necessity, by many of our Merchantmen.

No man of common sense could but distinguish the advantages which it poseses over other fracture apparatus, it promises therefore, if it has not already done so, to supplant them all, at least among men of intelligent and unprejudiced minds.

This apparatus consists of four pieces, two of which are concave inclined planes, one for the thigh, the other for the leg, a third piece for the foot, and a fourth or hip piece which is connected with the thigh piece, extending upward beside the body.

The skeleton of the thigh piece consists of two narrow pieces of strong wood, twelve and a half inches long, permanently fixed parallell to each other, at the requisite distance apart, and supported firmly, yet in the lightest manner by iron work. The skeleton of the leg piece is made of two pieces of wood of the same size of the thigh pieces, but nineteen and a half inches long, they are also permanently fixed parallell to each other, and about five and a half inches apart, by means of two strong bars of iron wire, passing beneath, and screwed firmly to the outside of each piece. The thigh and leg piece are now united by means of two hinges, which are so made that the apparatus may be lengthened or shortened as may be required, and firmly fixed by means of thumb screws, they will also allow of flexion and extension, which motions may also be regulated by the thumb screws, assisted by a convex

narrow piece of sheet iron, in which is an oblong slit, one end of this piece is attached to the iron bow of the lower extremity of the thigh piece, while the other end is attached by a thumb screw, which passes through the lower part of the oblong slit to a hole in the superior iron bow, supporting the leg piece.

The foot piece is made of a half inch board, cut into the shape of the sole of a shoe, around the heel of it a firm piece of leather is nailed, designed to support the heel, a laced shoe is now made use of, ~~designed to support~~ it is attached to the foot piece by means of a thumb screw. this foot piece is so attached, that by it the leg piece may be shortened or lengthened, and that the foot may be elevated or raised, turned in or out, to suit the right or left limb or any desired inclination, and flexed or extended as we may wish. The hip piece is made of iron, well cushioned, about nine inches long, and of a shape to suit the form of the hip, to this is to be attached a piece of strong cotton webbing, leaving two free ends, one end of which should be long enough to pass around

the body of a patient, and a buckle should be attached to the end of it, which on the apparatus being applied, is to be fastened to the other free end.

The supporter of the thigh in the thigh piece, is made of a thin piece of poplar board, to one side of which, strong domestic cotton has been firmly glued, the poplar piece being then split so as to form it to the convexity of the thigh, it is cushioned according to the shape required, and placed in the apparatus, supported on the iron supporter of the apparatus. Belonging to the thigh is another piece of poplar, prepared as the former, for the purpose of securing the thigh in the splint, and attached to it by means of two straps, with which it is fastened around the limb.

The supporters attached to the leg piece, are several pieces of cotton duck which are fastened to buttons on the sides of the apparatus, by means of leather straps, one on each side of each seperate piece of duck, these can be so fixed at the time of applying the apparatus as to give perfect support to all parts of the limb.

The next indication with regard to this

apparatus, is to make it as it were a part of the patients body, so that he may move his position without danger of disturbing the fracture, and this is effected by means of a strong cord, which has an attachment at each side of the leg piece, immediately below the knee, this cord then passes obliquely from the patient to the ceiling, to which it is fastened by means of a staple, thus whatever the movements of the patient may be, the apparatus swings with him, the limb lying perfectly at rest, continued extension is also kept up by the cord, which is one object in passing it obliquely from the patient.

Having thus passed through the principal features with regard to fractures, we will conclude by briefly considering, Nature's efforts with regard to the deposition of callus

Callus is a bony deposite which takes place in the provisional tumour for the purpose of consolidating the broken bone. It is now generally known that bone is possessed of nerves, arteries, veins, and absorbents, that it is originally a secretion deposited by the arteries, and that callus

is formed in the same way as that which forms the original bone; I have stated that it was deposited in the provisional tumour, this I have before spoken of as natures first recuperative effort, it may be well here to recapitulate the origin of it.

When a fracture is produced, the vessels are lacerated, and bruised, an effusion of blood takes place in the part, inflamation follows, serum and fibrin are poured out, and the bruised vessels become distended with blood, this gives rise to swelling in the limb, and particularly at the seat of fracture, which can be accounted for by the effusion into the cellular tissue of the periosteum, increasing its thickness to a great extent, a similar effusion takes place within the medullary cavity and between the fractured extremities. The blood effused quickly coagulates, the colouring matter disappears, and the parts surrounding the fracture become firmly agglutinated together, the tumour at last becomes hardened and firm, thus giving great support to the part. In this mass a vigorous circulation is carried on, particularly in the thickened periosteum, for the purpose of generating bone, this bone is generated

not only externally, but in the interior of the tumour, forming as it were a plug or pin between the fractured extremities, while the callus externally forms a ferule, which as the bony deposite goes on between the bones, is gradually absorbed externally, till finally the bone becomes of the natural size. This absorbtion is frequently a tedious process, but Nature will in time take away the superfluous matter leaving the limb as shapely, and useful as before, The patient often complains after he commences using the limb that a good deal of swelling takes place in it, this arises principally from the presence of serum which exhales from the weakened capillaries, this may be remedied by the use of friction and bandages.

To the
Provost, Regents, and Medical
faculty
of the
University of Maryland
this inaugural dissertation
on Hernia,
is respectfully submitted
by
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When reviewing the dark and gloomy Catalogue of Maladies, so awfully replete with suffering and misery, stamped upon our frail and perishing mortality, by the creating hand of Nature, there is not one on that dread list, that awakens upon the trembling cords of Humanity more feeling tones of sorrow, or kindles that spark of sympathy which vitalizes the christian's soul, more quickly, and which reveals to the inquiring mind of the Pa=thologest stronger demonstrations of man's utter helplessness, than the one, upon which I presume to offer a few remarks; and that one is Hernia —

Hernia as its name implies, sig=nifies a branch, from the parts involved in the disease taking on a branched and diverging disposition — Professionally speak=ing it implies a protrusion of any one or more of the contained organs from their proper places. —

In vulgar language the term Rupture is applied to all protrusions that point externally at the lower regions of the Belly; but in Surgical the general term Hernia is used as expressive of all such conditions. When the significant word Hernia is expressed, professional men are lead involuntarily to consider the precise condition, namely a protrusion from the Abdominal parieties. I do not mean that the term Hernia is expressive, only of a protrusion as it relates the contents of the Abdomen; for we have an affection of the head called Hernia Cerebri; and of the spine, Hernia Spinalis. In fact unnatural protrusion may be technically speaking classified under the general head Hernia. Tis in accordance with the more restricted view of the subject. I will proceed, after these few desultory introductory remarks —

If I were to describe in detail all those regions of the Human frame, which are in the least predisposed to such abnormal dispositions, and where there is a possibility of such an action taking place, it would necessarily require a lengthened and tiresome anatomical description which would, I have no doubt be as uninteresting to those who may have the misfortune to read this, as it would be laborious and wearisome to me. As all the different kinds of the disease are subject to the same pathological conditions, and require the same principles of treatment, I will dispense with those varieties which are of least importance, from their less frequency, and confine my remarks to but two species, namely, Inguinal and Femoral.

If we take man as we find him, made up of a series of dependant and dependent organs, connected together by that

mysterious chain of vital relation, which characterizes "animated nature"; with streams and channels through which this vital principle is perpetually flowing, we find, as some of these organs are exterior to the general mass, outlets and breaches of continuity through which they may the better add their portions which help to make up the complete system: and it is through these necessary openings that such protrusions are generally found. The organs which are thus connected by interposed connections to the body, are the Testicles, which as every one knows are the principal agents concerned in the reproductive apparatus. The course selected for this connection, Nature has picked out in the lower part of the Abdomen, through the diverging fibres of that portion of its covering called the External Oblique Muscles. This opening is what is called together, with its inner continuation the Inguinal Canal.

Before the mechanism of this canal and the parts immediately concerned in the subject of this Thesis, can be properly brought to light, a concise and brief anatomical description will be requisite.

The lower portions of the Pelvis, like the rest of the body, are covered most superficially by the skin, which is connected at this region by a dense and firm layer of cellular Tissue to the next general Envelopment, the Superficial Fascia. The Superficial Fascia found here, the same as that which is found covering the whole body, is divided into two layers, a superficial and deep seated. The outermost of the two being attached to the skin, while the other surrounds and invests each and every Muscle. At this particular region however they are more consolidated and stronger, thereby giving more support to the Abdominal walls, which are here naturally weaker

and less strongly fortified, than safety requires. The most superficial layer of these Fascia passes downwards, that is, if we start from above, over the groin scrotum and Penis; and from thence onwards to the lower extremities. The deeper layer following the same course attaches itself, to the lower border of the superior Oblique Muscle, called Poupart's Ligament. The arrangement of this fascia at this region is very peculiar. It attaches itself to Poupart's Ligament, which extends from the Anterior Superior Spinous Process of the Ilium, to the Symphysis Pubis, to its outer or Iliac third, very intimately, and there it terminates. To the remainder of the Ligament it is but very loosely attached; and it is here that the fascia passes over the Ligament for a short distance, and blending itself with the Fascia Lata, which is the true fascia of the Thigh, forming the notorious and well known Cribriform Fascia.

Now if we trace the Spermatic Cord on one side up to its Exit from the Belly, we come to that opening called the External abdominal ring, which is formed by the Extreme fibres of the External Oblique Muscle diverging from each other. The External Oblique Muscle in its course downwards, with its fibres separating themselves by degrees, attaches itself to the Anterior Superior Spinous Process of the Ilium, and from thence proceeds downwards with its edge turned in upon itself until it reaches the Pubis. This edge is not a mere rounded cord, as it would seem on the first sight; but it has a grooved appearance and formation, with its convex surface looking below. At the Pubis the inner edge of this Pouparts Ligament becomes broader and more expanded, and after being attached to the bone is reflected as it were backwards on itself, upon the surface of the Espine of the Pubis, forming Gimbernats Ligamente

At about an inch and a half to two inches from the Pubis the fibres of the muscle are completely separated from each other, forming a triangular opening, with its apex pointing upwards in the direction of the fibres, and its base to the bone, or Pubis. This is what is denominated the External Abdominal Ring. Those fibres which form the upper portion of the ring are called the Superior pillar, and those the lower, the Inferior. The fibres of the Superior Pillar cross before the Symphysis, and after decussating are attached to the opposite bone; while the Inferior are lost in Poupart's Ligament. The Superior extremity of this ring is strengthened by bands and bundles of fibres, which originate from Poupart's Ligament, and after crossing and strengthening the Superior portion of the ring are lost in the muscular tissue. These are called Abdominal bands. This is all that the External Oblique has to do with the formation of the Inguinal Canal.

The continuation, or inner extremity of the Inguinal Canal is completed by the positions of two other muscles; that is by their mode of origin and insertion. The first of these is the Internal Oblique. It arises in company with the Transversalis which comes next, from the inner Edge of Poupart's Ligament, at its outer or Iliac third. Its fibres at first start obliquely across the Abdomen, but before they reach scarcely any distance, they sweep in a semicircular manner downwards and are inserted into the spine of the Pubis. The Transversalis arises more towards the Ilium than the Internal Oblique. It arises in the same manner as the one just described, and runs at this portion of the Abdomen in precisely the same way. Immediately opposite to the opening in the External Oblique, the tendons of the Internal Oblique and Transversalis unite into one firm and dense tendon, constituting what anatomist call the conjoined Tendon, which tendon is in=

serted firmly into the Spine, or Pectineal line of the Pubes, immediately behind the External Ring. "By the positions of these muscles, and the insertion of the conjoined Tendon, it can readily be seen how the Inguinal Canal can be made out. "The space left between the lower bordes of these muscles above, and Pouparts Ligament below is what has been called, and very improperly too, the Internal Ring. The Internal Ring is another thing, and hasent any thing to do with these muscles. It is that opening made into the Transversalis Fascia, which lines the whole interior of the Abdominal Cavity, by the Testicle as it slips under the Edge of the Transversalis Muscle, in its passage through the Inguinal Canal to the Scrotum. "The Inguinal Canal, together with its outlet and commencement have been each described, in as brief a manner as possible.

"Whenever a protusion takes place through this Canal, let it be composed of any thing

that is contained within the Belly, the disease is called Inguinal Hernia. Before I leave this part of the subject, it will be necessary to say a few words concerning the coverings of the cord. When the Testicle arrives at the External Ring, it pushes before it a fold of the Transversalis fascia, which constitutes, from its shape, the Infundibular Form Fascia; and having passed this point, and while under the margin of the Internal Oblique Muscle, it takes from that muscle a slip, which invests the cord in its whole course. This muscle has the name of Cremaster; it is also invested by a fascia which has the same name. The cord together with the coverings that have been described, receive another layer from the pillars of the External Ring, called Inter-Columnar, or Lamper's Fascia. The coverings that the protruded viscera or viscera must necessarily have when it or they follow the whole course of the canal, can now be readily

understood, when it is borne in mind that, the protrusion is surrounded by all of these coverings.

As I have proposed to speak of another variety of this disease, it will be proper I think to give its position and anatomy, before the pathology and treatment of this variety are treated of.

That space which is left between the bones of the Pubis and Ilium, below and externally, and Poupart's Ligament above, is filled up by muscles and several blood vessels, which carry and return the blood after it has gone the rounds of the lower extremities.

The muscles are, the Iliacus Internus and Psoas Magnus, the Psoas Parvus having very little if any thing to do with it. The vessels are the Crural artery vein and nerve.

The Iliacus Internus fills up the whole depression or Cavity in the os Ilium, and passing under Poupart's Ligament, attaches

itself to the Inferior Trochanter of the Femur. It shuts in about the outer fourth of this space. The Psoas Magnus comes from the Lumbar region, and running in immediate contact with the Iliacus Internus, is attached with that muscle into the same point. The vessels arrange themselves in the following order. If we commence at the Pubis, we have first the vein, then the artery, and last of all the nerve. The vein and artery are contained within the same sheath, but separated from each other by a delicate slip. The sheath which is here spoken of, is not the common sheath which is attached to both arteries and veins, but it is a super-added investment, peculiar to this particular region. This sheath is called the Crural sheath. The space that the vessels occupy in their course under Poupart's Ligament is called the Crural Canal. The nerve lies between the Psoas and Iliacus Muscles, at their most superficial surface.

This space is entirely closed up from below by the Fascia Lata, and the Crural vessels. The Fascia Lata is a very strong and powerfully protecting layer for the muscles of the Thigh. At a very short distance from Poupart's Ligament this fascia divides itself into two portions; one passing above the vessels, and the other below them. The superior layer is attached to Poupart's Ligament from the Pubis to the Ilium, necessarily passing over and covering the vessels. From the Pubis the Inner Edge of this layer of the fascia, is reflected outwards and downwards, forming a Crescentic or Falciform Edge, from whence it gets its name. At the immediate spot where these two layers separate from each other, the Internal Saphena vein empties itself into the Femoral vein. The inner layer of these portions attaches itself to the Pubis, and then runs under the crural vessels; over the Pectinus & Adductor Muscles, and is reflected to the Capsule of the Hip Joint.

The Crural vessels in their passage down=
wards must necessarily pass immediately
over this last mentioned layer. This opening,
between the two portions of the Fascia Lata
is the outlet to the Crural Canal, and
is covered by that portion of the Superficial
Fascia which descends below Poupart's
Ligament, and being perforated for the
Transmission of the superficial Lymphatics
has the significant name of Cribriform
Fascia. The Crural Sheathe is formed as
in the other case, by an Infundibular formed
prolongation from the Fascia Transversalis, which
is reflected over them as they pass. Between
the brim and edge of Gimbernat's Ligament
there is a space which isn't altogether as
well filled up and protected as it might
be, or as safety requires. There is however a
deep seated lymphatic gland situated
within this space, which is surrounded
by a layer of Cellular Tissue; and is what
has been called the Femoral Ligament.

It is here that a protrusion sometimes takes place, and whenever it does it has the name of Femoral Hernia. When the Iliac artery has reached the inner edge of Poupart's Ligament, just at the commencement of the Inguinal Canal, it gives off a pretty large artery which is called the Epigastric. This artery is to the Pubic side of the Internal Ring, and is of the first importance when considered in relation to the treatment of Inguinal Hernia. There is also sometimes another branch given off with or from the one just described, which runs around along the ramus of the Pubis, to the Thyroid Foramen, called the Obturator artery. This artery may sometimes take the place of the proper Obturator, or it may be a simple "Ecco Natura".

Now as the anatomy of the parts that are occasionally subject to such abnormal dispositions have been described in as cursory and brief a manner as possible, I will proceed immediately to the consideration of the Predisposing and exciting causes of Hernia.

When speaking of predisposing causes, the term predisposing is used to express all of those general conditions independent of the cause immediately antecedent to the appearance of the protrusion, as applicable to both varieties. Those persons who are most subject to this variety of the many and endless catalogue of diseases to which we are liable, are those who are naturally of a weak and delicate "habit." Those whose nervous system is of an excitable and easily prostrated character, and who are after the performance of any sudden and violent muscular exertions, completely worn out and fatigued, are more liable to be affected, not only while in this relaxed and enfeebled state, but are constantly and forever more in danger. What is meant by a weak and relaxed "habit" is merely this: that a person whose nervous system is easily prostrated, and whose muscles are of a flaby character, and of relaxed and delicate fibres.

such persons we say are predisposed, and more liable to be affected, because an aperture can be more readily made whenever any sudden and violent action is made upon any substances that offer more than usual resistance, from the ease with which their fibres can be separated on account of their preternaturally relaxed and flaby condition. "Those who are badly fed, and in whom the nutritive process is but poorly maintained, ought to be more liable to this disease. From the foregoing, it can be readily seen that all things which have a tendency to weaken the system generally are more or less predisposing agents. Some are predisposed by a tardy closure of the tunica vaginalis, and by the dilatation left after the disappearance of a Circocele, or the removal of the fluid in Hydrocele. Some are by nature predisposed by some abnormal arrangement of the Anatomy of those regions, which have been described, for instance, when the opening for the transmission of the cord is preternaturally large.

and in women, when the Femoral ring is larger than natural, caused by the over ~~xxx~~ dimensions of the Pelvis. Women who have relaxed and distensible muscles, the repeated strainings of child bearing are powerfully predisposing and occasionally exciting causes. These remarks apply equally to both sexes, and to both kinds of Hernia.

The exciting causes of a disease, or rather the exciting cause, is that extraneous circumstance which immediately precedes the disease or in other words, that assignable cause which we can give as a reason, for such and such results.

The exciting causes of Hernia are very various; but they can be given under a few general heads. Any violent bodily exertion, when the Abdominal Muscles are brought into increased action, may be an exciting cause. Although a certain degree of action on the part of the muscles is required for the healthy performance of their functions; for it is partly by the

reciprocal action of compression and resistance that the functions of the viscera within are maintained. but when this force is too energetically and unevenly applied, some of the contents within are forced through the weakest places, and these are generally those which have been described. In females after the fœtus has been delivered, the efforts which are required to expel the Placenta, are sometimes sufficient to cause a protrusion. In fact, under certain circumstances almost any thing will prove a sufficient cause.

As the different species of Hernia take their characteristic species, from the names of the organs involved, and their grand divisions or varieties from their respective situations. Thus when an intestine is the sole organ engaged, and protruded through the Inguinal Canal, the Hernia is called Inguinal Hernia, and the species if it can be found out, Enterocele: When the Omentum Epiplocele, and when the

intestine and omentum are protruded together Entero-Epiploceele.

When the protrusion descends, or has descended into the Tunica vaginalis before nature has had time to shut in its superior extremity by that peculiar action termed adhesion; or after it has been but slightly closed, breaks up its closure, the disease is called congenital Inguinal or Scrotal Hernia. In this case the protrusion is generally in immediate contact with the Testicle, and has the same coverings as a common Inguinal Hernia; but sometimes it carries a layer of Peritoneum before it, and when it does, it of course has one more coat than the common kind. Fortunately for mankind this form of the disease is but rarely met with, but when it does occur, and the patient is able to stand the trials of professional interference, it must be treated upon the general principles of surgery.

which will be treated of very hastily and generally, when we come to the treatment of the Inguinal proper. Likewise the Inguinal Hernia that follows the round ligament of the Uterus, through the Inguinal Canal, is subject to the same conditions, both Pathologically and medicinally speaking.

The protrusion whether it be of Intestine, Omentum or both together, through the Inguinal Canal particularly, may in time grow to an enormous size, and be attended with no other unpleasant circumstances, than the inconvenience of its bulk and weight; as I have repeatedly seen. But the parts thus protruded are subject at any time to the influence of ten thousand causes, which may produce in them thus predisposed, the most awful and dangerous consequences.

According to the pathology of the disease, of Hernia, they are said to be reducible and irreducible, that is.

they are said to be reducible when they admit of being easily returned, or returned without violence, and irreducible, when they cannot be thus returned. The causes that interfere, or assist in keeping the parts protruded, from being returned are very various. A preternatural adhesion is one, and very often the sole cause. The protrusion itself may become inflamed, and as a consequence glued to the surrounding integuments, by being thrown into this unnatural state; or the protrusion acting mechanically as an extremous cause by the undue pressure it creates, may cause over excitement, and finally inflammation in the surrounding parts, and its own structure, and thus also create adhesions. When the parts adhere to each other in this manner, and without any other complications, the Hernia is simply irreducible.

But when the protrusion cannot be returned, or is rendered irreducible from the over distension of the sack by impacted feces, or by any thing that renders the parts implicated below the external ring, larger than they are at the ring, the Hernia is not only irreducible, but is in Surgical and Technical language Strangulated.

This condition can be very easily understood: The parts (that is the sack being at first like a collapsed bag with a strong and unyielding cord around its neck, and being distended below the cord, the cord not yielding when any thing is forced into the bag, causes the bag to bulge out.

This condition of things is an analogous one, I think to the pneumo. The feces distending the sack, and causing it to bulge out below the External ring, and the margins of the ring acting as a stricture upon the neck of the sack, the parts are rendered irreducible and strangulated. The protrusion

may also be rendered strangulated from its size being greatly augmented by venous congestion. From an inflammatory action, or the effects of that process, within the integuments of the ring, or in some portion of the neck of the sack, a stricture is formed, which acting like a ligature hinders the blood from freely returning; and of course the longer the stricture remains the more urgent and distressing will be the symptoms. This kind of strangulation, is a most awful and dangerous one indeed. They may also become indurated and strangulated by an accumulated mass of fat or other deposits.

As the most prominent characteristic points of difference between the two species, namely reducible and irreducible, have been pointed out; it will be necessary to say a few words about the treatment of reducible Hernia

After the Diagnosis has been carefully and properly made out, and the disease distinguished from those which may on the first

glance be mistaken for it, such as Circocele a engorgement of the Spermatic veins, from Hydrocele, or Serum within the Tunica Vaginalis; and other enlargements in this region. the Surgeon should go promptly to work. In a case of simple reducible Hernia the Surgeon has mighty little to do; for in some and in a majority of cases the patient can do all that is to be done, but it is better and far safer be in all cases, that a professional man should performe the Operation.

The Patient should be placed in the recumbent position, with the leg on the side affected slightly raised, and the Knee turned over to the other side, so that the muscles may be relaxed as much as possible, which state of relaxation will add greatly, to the speedy performance of the Operation. This may seem to the careless as unnecessary and troublesome, but the performance of such preliminaries can do no possible harm, and under certain circumstances, in a simply ~~[illegible]~~

reducible case even, may be almost all that is required. When the parts are in this relaxed state, the operation should be commenced. The protrusion is to be taken hold of, and by gently and steadily pressing, and squeezing, first the contents and then the sack, the operation is to be carried out.

If the Hernia be not strictured, and only a simple one, this mode of operating will always succeed; at least in such a large majority of cases, that its success may be put down as certain. After the protrusion has been reduced, a properly constructed Truss should be worn. The mode of operating above described is technically called the Taxis, and is entirely done with the hands. The patient should must keep for a time, and in fact for ever, from all kinds of violent exercise, and from all those causes which excited the disease at first, and which may have a tendency to produce it again.

When the Hernia is simply

irreducible and not strangulated, all kinds of manual interference must be strictly kept from, and the parts protruded must be well supported by a well adapted Bag Truss. This is all that can be done with propriety in such cases.

Now we come to strangulated Hernia. The following remarks let it be understood, apply equally to all kinds of hernia when they are in a state of strangulation. The symptoms that characterize this stage of the disease, are increased tension and pain in the protrusion, and very often a diffused redness is seen in the skin. If the strangulation be not immediately relieved, the agonies of the poor sufferer, are wrought up to the highest pitch. In a short time the symptoms get speedily worse, and all the most violent symptoms of inflammation are kindled up: the pulse is greatly increased in frequency at first, and there is also obstinate and painful

and painful constipation. The countenance, the living index to the "Moral Emotions" is expressive of the most excruciating agony.

If this state of affairs be kept up for pretty considerable length of time, the natural peristaltic action of the intestines above the stricture is inverted, and the feces are thrown up, by what is called stercoraceous vomiting.

This may be called the first or active stage of strangulation. If the strangulation is not relieved at this time, the whole aspect of the disease is completely altered. The sensibility, which but a few hours before was wrought up to the highest pitch of agonizing intensity by the violence of the disease, is now as it were in a perfect state of tranquility! the tension is changed into an apparent state of relaxation, and the redness into a livid or brown hue: the pulse indicates a condition of the most extreme debility — the coats now suppurrens, and the patient is in a state

scarcely distinguishable from death. These are the symptoms of a severe case of strangulation, and are applicable to every case, wherever it may be located.

If the strangulation is in its first stage, the Taxis can be tried, and this is the only time when surgical aid can do any thing towards relieving the disease, for if it has passed into a state of mortification, it is mighty apt to be beyond the power of human skill, but if it be in the more severe and advanced stage, all manual interference and handling must be done away with, and considered as worse than ~~nothing~~ useless. If the Taxis be put into operation, it should be done gently and steadily. If the parts are rigidly contracted, and the operation prevented by their not yielding, they should be made to yield if possible by artificial means, such as Tartar Emetic given in nauseating doses; and by some an injection of the infusion of Tobacco is used, and in

plethoric subjects, from whom the abstraction of blood can be easily and perhaps beneficially borne, blood must be taken to such an extent, as will produce faintness.

When the parts are relaxed, the means by which it is done, being always at the option of the operator, the operation should be commenced, and conducted in the same way, as for simple reducible hernia.

Some recommend the use of cold water and astringents, for the purpose of causing the muscles to contract, and thus by relieving themselves of their contents, of course rendering the reduction more easy. These means may in a slight case answer very good purposes, but in severe and protracted cases they had better be put aside and give the patient the only chance that skill possesses, and that is in the efficacy of the keen edge of a piece of Steel

The patient should be placed in the recumbent posture, with his legs slightly ele-

vated, and after the parts have been shaved, an incision should be made from the margin of the external ring to the middle of the tumour if it be large. The first incision should be carried down through the skin and cellular tissue; and then each successive layer of the intervening fascia, should after being pinched up and perforated, be laid open with a Bistoury running in a grooved director the whole extent of the incision.

When the true Peritoneal sack has been reached, the operation should be conducted with the greatest possible care. Now the parts within are to be carefully examined and the stricture sought for. It is at this stage of the operation, that it can be found out, whether the hernia be Oblique or direct, by the situation of the Epigastric Artery. If it be oblique it is on the internal side of the neck of the sack, and if direct on the external side —

The stricture is now to be sought for. The Seder Knife is to be introduced and the stricture found, and it is there to be withdrawn, and introduced another time covering the edge of a probe pointed bistoury, which is carried in for the purpose of dividing the stricture: when the point of the instrument has reached within the stricture, it is to be carefully turned in a rotary manner with its edge upwards, and thus the stricture is to be divided — The parts are now to be exposed, and if they be in a fit condition for reduction they are to be returned. If the reduction be prevented by a stricture at the internal ring, the same operation for its relief division is to be performed, care being still taken not to touch the Epigastric artery.

After the protruded parts have been returned the wound must be brought together by several sutures and adhesive strips.

In direct Inguinal Hernia the same principles for the operation are to be put into exercise; only

cutting more to the inner side, when the stricture is being divided, so that the artery may be spared — These principles apply equally to females and children, taking care to regulate the severity of the treatment, according to the ability of the patients constitution to stand it —

Femoral Hernia is subject to the same pathological conditions, and requires the same principles of treatment as Inguinal — The protrusion of course follows the course of the Crural Canal, and cannot, if the least care be taken in making the examination, be taken for any thing else — If the Hernia be a reducible one, it must be returned by the Taxis: this mode of operating is, in this case somewhat different from that mentioned for the relief of the other, As the tumour rests in the groin, on the falciforme edge of the fascia Lata, with its edge neck below, the pressure must be made downwards with one hand, and the other direct the sack

and its contents in the course of the canal, under the falciform edge of the fascia Lata.

If it be an irreducible one, without any other complications, it must be supported by a bag truss, properly adapted to the case.

If it be strangulated, the same kind of an operation must be performed & that is the integuments must be laid open, and the stricture found as before. The stricture may be caused by the ~~Fal~~ falciform edge of the fascia Lata, or by Gimbernat's Ligaments or by the constricted margin of the Femoral ligament.

Whenever the stricture is found, it must be divided. If it be at either the Femoral or Gimbernat's ligament, great care must be taken lest the Obturator artery should be wounded, as it might possibly take on its unnatural situation. After the stricture has been relieved and the protrusion returned, the case is to be treated in the same way as the one just mentioned

When the Peritoneum, Intestine, Omentum or all combined, are found to be in a mortified state, they had better be removed and an artificial anus established if possible. The after treatment required is very simple. All causes that give rise to evertion, on the part of the patient, both bodily and mentally must be studiously avoided. and the patient kept in as quiet a state as possible.

If the patient be much prostrated and collapsed, he should be nourished and supported at first; and after reaction has been established, he should be kept on a low and antiphlogistic regimen; so that peritoneal inflammation can be kept down. But if inflammation should supervene, the strictest kind of an antiphlogistic treatment must be put into operation. The bowels should be kept gently open by aperients and enemata; and pain subdued by Narcotics.

These are the general heads both of the Anatomy, Pathology and Treatment of these two species of Hernia —

An
Inaugural Dissertation on
Phthisis Pulmonalis
Submitted to the examination of the
Provost, Regents
and
Medical Faculty
of the
University of Maryland
for the degree of
Doctor of Medicine
by
Thomas F. Owens
of
Maryland
1844

Among the many diseases to which the human family are liable, there is none which demands greater sympathy, or the more strict attention of the Physician, than Pulmonary Consumption: And although its primary stage may have passed, and death appear certain, yet he has it in his power greatly to alleviate the sufferings of his devoted patient; and smooth his passage to the grave.

Consumption may be traced back to the earliest periods of Medical history, and though ages have rolled on with all their changes, yet this bane of human life remains still unchanged. No condition, no period of life can claim exemption from its ravages; it has never abated in its fatality, never rested from its work of destruction.

This disease has a range over a wide extent of latitude, visiting people dwelling in different climes, and of the most dissimilar manners and habits of life; it has its victims under the bright skies of Italy and the Mediterranean Islands, as well as in colder climates, even Madeira once so famous as a residence of the Consumptive, has felt its awful grasp.

It cannot be expected that I should advance any thing new upon a subject which has so often baffled the skill of men of the most exalted talents. I shall merely mention the facts which, I have collected in my course of reading.

Consumption has been very properly referred to a condition of the lungs in which there exists certain morbid productions denominated tubercles. Several other affections distinct in their nature, varying

in their degree of fatality, and requiring different forms of management have been mistaken for this disease, persons may suffer for months with a chronic cough and expectoration, ultimately subsiding, and leaving them in perfect health, it may continue with remissions through life, the subject dying of some other disease; or he may have many of the symptoms of Phthisis, and yet only be inflammation of the Bronchia. The most careful examination on the part of the Physician is therefore required to distinguish this from other diseases of the Chest.

Tubercles derived from the Latin tuberculum, present themselves in the first stage in the form of small semi transparent granules or excrescences of a grayish colour, but sometimes they are almost colourless and transparent, being about the size of a millet seed, whence the name of miliary tubercles; as they increase they become yellow and opaque; at first in the centre, then gradually in their whole extent: those that are near each other unite forming masses of the consistence of cheese, in which state they are denominated crude tubercles. These groups being thus blended together in one mass may discharge their matter into the air passages by a common ulcerous opening.

Cases present themselves though rarely in which there exists but one tubercle, under such circumstances the symptoms would be but slight. Others again are discovered in which the greater portion of both lungs, are found to be apparently converted into tuberculous matter.

Laennec believed that they

appeared in the majority of cases first in the right lung; but the observations of many eminent pathologists goes to confute this hypothesis and shew most conclusively, that the left lung is more frequently the seat of tubercles, than the right.

Tubercles may remain in the crude state from a few weeks, to months and even years before undergoing the process of maturation; in many cases the symptoms the symptoms do not proclaim their developement, until one or two have commenced to soften. In those who have a tuberculous disposition they are not altogether confined to the lungs: they may be found seated in the heart, brain, bowels, liver, kidneys and larynx affecting the voice and deglutition; sometimes though rarely they are found in the muscles.

<u>Predispositions</u>. Persons who are predisposed to consumption, are generally of a scrofulous diathesis, in fact there is a striking analogy between scrofula and tubercles; as they seem to be but a modification of one and the same morbid condition. Those predisposed generally have a fair complexion, light blue eyes with a pearly whiteness of the conjunctiva, light hair and of a fine texture, delicate and soft skin, the limbs round and smooth, and the whole organization but imperfectly formed; many of the characters of childhood continuing to mark adult age. The male assimilating to the form and delicacy of the female. the chests in such subjects are generally small and sometimes contracted. the shoulders are disposed to become rounded, the neck long and slender, the digestion and circulation are feeble and become readily disturbed, severe exertion soon fatigue the mus-

cles, occasioning difficulty and shortness of respiration. The skin executing its functions imperfectly sometimes unnaturally dry: and again the perspiration being too profuse. The lining mem-brane of the internal organs and lymphatic glands are liable to diseases of a chronic nature terminating in ulcers which are slow and difficult in healing. It is the common opinion, that the unfortunate subjects of this constitution, are apt to display in union with amiable and placid tempers, an early acuteness and precociousness of intellect, which is too frequently the sad precursor of an early decay. Instances, however present them-selves, not only of different organization, but also of an un-usual dullness of perception.

The transmission by pa-rents, of particular conditions of organic structure, to their children, a disposition to produce certain diseases, is a fact which is now indisputable in Medical Science. We notice daily that children inherit in a greater or less degree, the looks and general constitution of their pa-rents, sometimes especially of the father, sometimes of the mother; or the moral & physical characters of both parents may be mingled together; which exercise the grea-ter influence upon the progeny, the father or mother has not been accurately ascertained. That a great amount of infirmity and suffering in the community may be traced back to ill-assorted matrimonial connex-ions, appears to be a fact beyond contradiction.

The health of parents whether produced by dissi-pation, or any other cause may entail upon their offspring a tuberculous predisposition, thus bad health during gestation, may unquestionably exercise a delite-

rious influence upon the new being, whose life is so intimately connected with the mother.

Exciting Causes – When persons are constitutionally predisposed to consumption, all causes which derange the health or act injuriously upon the lungs, in short every thing that tends to develope the disease becomes an exciting cause.

A cold and changeable climate, particularly if exposed to the influence of high winds, may be ranked among the most prominent causes in the production of consumption; and it is during the vicissitudes of our springs that the disease is in a special manner apt to reveal itself. Insufficient clothing, and exposure in winter, especially in females who hazard their health by improper use of thin shoes and stockings.

A draft of cold air blowing upon some part of the body may by checking too suddenly the pulmonary functions be instrumental in producing the disease in those who are predisposed to it –

To scanty, or excessive indulgence, in high seasoned and indigestible food, injures the digestive organs, deteriorates the general health; and if there is a tuberculous tendency it will hasten it into active existence – Intemperance of any sort and more especially in the immoderate use of spirituous liquors is one of the most active exciting causes of consumption – The sudden checking of a long and accustomed discharge frequently brings on the disease –

Long continued and incessant mental application tends to disturb the equilibrium of the nervous system, impair the vigour of the body, and if confinement and unwholesome air be added, phthisis will almost certainly be the conse-

* that of

-quence of these causes. The injurious effects resulting to health from indolence and sedentary habits are familiar to all; Nature evidently intended us to be active beings, and if we thwart her wise purposes our own retribution will be infirmity and suffering. Again too great labour acts as an exciting cause of consumption, the constitution being impaired by it cannot resist with steadiness those causes which otherwise would have but little influence upon the system -

Convalescents from Measles and other diseases, are frequently attacked with consumption, owing to the great susceptibility, to which they leave the system to the impression of cold.

Individuals employed in Iron Mills also very prone to this disease, from the fact of their breathing innumerable spicules of the iron which are continually floating in the atmosphere. but that arising from cast iron is much more abundant than that from wrought; so copiously as to blacken the face with the dust - the men first feel the annoyance in the nostrils, the lining membrane discharging copiously for a some time, and then becoming dry; the bronchial tubes become next affected producing difficult breathing; and if the person continues in the same employment for any length of time bronchial or tubercular consumption is the result. It appears that is the form, rather than the material. which proves so very pernicious; the points being sharp and very hurtful to the lungs; whilst the dust from old iron seems to be harmless. It is, in these factories that the invention of Sir Humphrey Davy's magnetic, mask proves of inestimable value by attracting the particles by attracting the particles as the approach the mouth and preventing them from being inhaled.

Unnatural confinement of the chest by dress, especially in childhood and youth, is incompatible both with equable developement and the free and necessary motions of the body. Hence the practice of tight lacing may be classed among the causes of Consumption; as well as many other bodily ills, it must, necessarily embarrass respiration, favour Pulmonic disease, and injure, more or less, other important functions of the system - the Spleen of the heart's action, especially being much diminished, palpitations and faintings are not an uncommon consequence.

It is an erroneous notion that young females need the support of stays. At this period of life, the whole body should be allowed the most perfect freedom of motion, and those exercises indulged in without restraint which tend to develop and strengthen the animal frame and evince it beautiful and healthful proportions.

The propagation of Consumption by contagion was advocated by Morgagni and many other eminent physicians of former times; and this belief is very prevalent to this day in the South of Europe. At Rome says Dr Clarke a law exists which compels those persons who die of Consumption to pay for the furniture which is usually destroyed.

It is the believe of some that haemoptysis, occurring, Consumption is very likely to follow as its consequence, in other words, that they stand in relation to each other as cause and effect. There is not, however, adequate evidence that tubercles can be produced by a simple bleeding from the lungs; though a few modern pathologists have to be now thought that they may be excited by the irritation of coagulated blood in these organs; yet by far

the most common opinion among eminent men, both English and French is that hemoptysis is a symptom rather than a cause of Consumption; thus the hemorrhage following mechanical injury, great physical exertion, a violent fit of passion, long and loud speaking, or any undue excitement, or a suppression of the habitual discharge, in a healthy Constitution, is by no means necessarily succeeded by Phthisis. But when it arises without obvious cause more especially in a scrophulous constitution, then symptoms of Consumption for the most part soon reveal themselves, for tubercles are already in existence, of which the hemorrhage is but an indication. With these there are many other exciting causes, too numerous to mention and of less importance.

Auscultation and Percussion. These means of diagnosis are of great importance to the Physician and although discovered in the middle of the last century it is unfortunately a part of the Medical Art which has occupied but little of their study comparatively; and is therefore but imperfectly understood by many Physicians of the present day. The discovery of the Stethoscope is certainly one of the most important acquisitions to Medical science; but it too shares the same misfortune with other means of diagnosis in sometimes proving ambiguous.

In the first stage the pathological conditions of the lungs, consists in the presence of a greater or less quantity of tuberculous matter, the whole or greater proportion of which is in a stage of Crudity more or less firm. The pulmonary tissue and bronchial membranes in the vicinity of these deposits may have undergone

- gone no perceptible alteration, or may present a degree of redness and vascularity. At this period the physical signs are not as valuable as they are afterwards, unless the tubercles are more numerous, and seated near the summit of one of the lungs; under such circumstances the sound rendered upon percussion of the diseased side, will be more dull under one clavicle than the other, the respiratory murmur on careful listen will be less full and free; but unless these indications are sensibly different on the two sides, they cannot as a general rule, be much relied on at this early period as a means of diagnosis.

In the second stage the diagnosis becomes more marked, this is the period of softening of the tubercles; now it is that adhesive inflammation generally unites the pleura costalis and pleura pulmonalis and the pains experienced in the corresponding parts of the chest are often evidences of slight pleuritic affection, which precedes and is the cause of the union, during this time the dullness continues and generally extends over the whole surface, auscultation now becomes a valuable diagnostic agency; vesicular respiration is no longer audible in certain portions of the lungs, while the respiration along the larger bronchia may be unusually loud, the mucous, the crepitant or sub crepitant rales are heard; the latter more especially when the patient coughs.

The resonance of the voice is greater over the affected parts, and distinct pectoriloquy may be heard, particularly in some portion of the clavicular or scapular

regions, but this is not more audible unless the cavities are large and empty.

In the third stage Percussion gives a dull sound whenever there is solidification, but if it be practiced over a cavity, the sound may not be as dull as in the second stage. Auscultation indicates that there is respiration in different parts of the lungs; none that is vesicular: but the bronchial respiration may be uncommonly loud; so as even to be tracheal or cavernous. Coughing gives rise to a gurgling sound, and sometimes this gurgling is heard on inspiration and pectoriloquy may be more or less distinct - especially in the morning after the pus which has been collected during night in the cavities have been expectorated.

Symptoms

The premonitory and early symptoms of Consumption vary in different cases. In some instances an irritating cough will come on, after a short time ceasing; then recurring again, till finally the character of the disease become too plain to be mistaken. Again the cough with occasional remissions may last for months, and in rare instances even for years, before the true nature of the disease is made known. Here the protracted cough is probably owing to the irritation of crude tubercles in the lungs: The cough may be dry or accompanied with more or less expectoration of the common mucus of the air passages, and often resembling that from a common cold, to which cause it is generally attributed.

Sometimes the earliest symptoms and those of an acute pulmonary Catarrh or cold on the lungs; or hemoptysis may awaken our first suspicions. Some irritation of the larynx, more stubbornly remarked early in the morning, on first rising from bed is experienced, which becomes aggravated by most any kind of exertion. The breathing too especially in a confined room or a crowd, is less free and tranquil than natural, and frequently on ascending an elevation the respiration becomes quite hurried.

Pains in the chest and other parts, as the shoulders and extremities, fixed or wandering, and more or less distinct and constant, are occasionally noticed among the earliest symptoms of consumption. In some cases pain is not experienced at all or only at the end of deep inspiration. Oppression and uneasiness in the chest is almost constant in the early stage of this disease. Indigestion also sets in the commencement, and by engrossing the attention particularly, often diverts it from the primary and momentous disease. Cases happen however, wherein the first the digestive functions appear to maintain its integrity, and remains comparatively unharmed, amid the progressive ravages of this wasting malady.

The victims of consumption, in its early stage, certainly, and many times almost to its close appear quite unsuspecting of danger, and even seem both loath that such suspicions should rest in the minds of others, and are inclined to speak lightly of their complaints, particularly to their medical advisers;

often keeping back some symptoms, and giving too favorable a representation of others.

Burning of the feet and hands are felt, alternating with coldness; flushing of the face is brought on by indigestion or any physical or moral excitement.

The eyes often vary from their natural expression, in some instances being morbidly bright, in others dull and vacant. The disease goes on advancing till every doubt of its melancholy nature is banished from the minds of all, save, perhaps of him who is its unhappy subject.

When the disease fully declares itself, the flesh wastes very rapidly, and even in cases where the appetite and digestive organs appear to be but little impaired. The pulse is almost constantly accelerated and becomes extremely rapid under any excitements.

The Countenance exhibits a surprizing change, it is shrunken, contracted its features sharpened, and a death like paleness is often seen alternating with a glowing hectic flush. The phenomena of Hectic fever vary somewhat, though not essentially in different subjects. At first there may be but one paroxysm in the twenty four hours, commencing in the latter part of the day; but in the advanced stage of the disease two fits occur; one near noon and lasting until the latter part of the afternoon, when the symptoms abate for a short period then commencing again at night. There are peculiarities about this fever which cannot fail to strike even the most ordinary observer.

A bright and often distinctly circumscribed flush paints

the cheeks, heightened by contrast with the paleness in its vicinity. In union with this hectic glow, the morbid brightness of the eyes, the contraction of the brows, and sharpened features, give to the whole countenance an expression of the most unnatural and painful character. Sometimes one cheek displays a much brighter colour than the other; or the flush may even be limited to one side of the face for a certain period.

In some cases of consumption, debilitating sweats are sure to ensue, whenever the individual falls asleep. Many times they attend even in the early stage, being general or partial and transient. There are instances too, in which the sweats either do not occur at all, or not till towards the very close of the malady; and also where they have come on, and then intermitted, not recurring till shortly before death. The cough at this period assumes a more decided character and is readily brought on; in many instances it is extremely harassing and severe; accompanied with difficulty of expectoration, and allowing but short and uncertain intervals of rest to the sufferer. It is more apt to occur and especially in an aggravated degree, early in the morning, and at the commencement of night.

The quantity of matter expectorated is by no means a sure indication of the degree of pulmonary disease; it may be large, when the affection is neither extensive nor advanced in its progress; and quite small, though the lungs are crowded with tubercles, and many in their stage of suppuration. The colourless sputa is observed in this stage to become yellowish, resem-

-bling cheese; streaks of blood is frequently perceptible in them, and hemoptysis, sometimes to a considerable amount occurs. The duration of this stage is extremely various: at times a few weeks, at others months and even years.

In a small number of cases a curative process says Dr James Clarke is established in which the effects of the disease are in a greater or less degree obliterated; and if the patients health be maintained in a good state, there may be no return of tuberculous disease.

As the malady draws near its fatal close the most melancholy phenomena present themselves. The emaciation is frightful and the most pronounced change is witnessed in the whole countenance and aspect. A few months have deprived it of almost every trace of its natural expression; the nose is sharpened, the cheeks are hollow, usually with a hectic glow contrasting strangely with the ashy paleness in their vicinity. The fat of the face being mostly absorbed; the contraction of its different muscles is witnessed through the skin, rendering the expression harsh and painful. The eyes are commonly sunken in their sockets, and from the emaciation about them, seem enlarged, bright, and staring; the white being frequently destitute of red vessels, displays a remarkable glistening pearly white shading into a pearly blue appearance.

The various joints from emaciation about them, appear enlarged and unseemly; and all the comeliness and pleasing symmetry of the human frame is destroyed. It is in this stage that large cavities exist in the lungs, and which has been termed the "Colliquative" in consequence of the wasting induced by the profuse perspirations, which are attended by diarrhoea -

The sputa, is much more abundant in this stage, presenting the appearance of globular masses, often of an ash colour; these masses predominate greatly over the bronchial secretion, being usually of greater specific gravity; and less penetrated by the air, they sink in water to the bottom of the vessel -

Along with the copious expectoration in the third stage, the dyspnoea often becomes urgent, so as occasionally to threaten suffocation; and the feet and ancles are oedematous -

Often the disease destroys by gradually wearing out the patient, by a hidden, yet not distressing irritation; but at other times the sufferings are considerable and not unfrequently death occurs suddenly. - Amid all the ravages of this disease the mind often remains comparatively unhurmed - a strange illusion, however, remarkably characteristic of consumption, will, not unfrequently retain

possession of it. Thus, the sufferer is oftime confident, and buoyed up by a deceitful hope, when, the disease has declared itself to all about him in language that cannot be misunderstood.

Intellects of the highest order have been the subjects of this pleasing deception, even distinguished members of the Medical profession, perfectly familiar with the disease, and who could not have mistaken it in another, have themselves, being its subjects, become entirely blinded in regard to its nature, and yielding to this peculiar phantasm have laid plans of future conduct, and reared airy castles of future enjoyment.

Treatment

Medical science as yet has discovered no remedy which exercises a direct and specific healing influence on the tubercles themselves; and yet the numerous pretended specifics that have been continually announced and the confidence with which even physicians of eminence often speak of their own remedies, might lead one to suppose that Phthisis was as much under their control as some of our most manageable diseases. Notwithstanding the uncontrollable and fatal character of tubercular consumption when fully developed: patients labouring under this form of disease are not to be abandoned to their fate without making an effort to arrest or retard its progress. In the incipient

stage of the disease, our constant object should be to counteract the inflammatory diathesis of the system, and remove all sources of irritation.

The attention should be directed to the regular maintenance of the respiratory functions, and for this purpose, the patient should wear flannel next his skin.

Bleeding is highly recommended by some in the early part of the disease, and when employed in cases of an inflammatory condition of the genera system its effects are decidedly beneficial.

Blood copiously and frequently would in many instances prove injurious by increasing the debility and morbid excitability of the system.

Cupping or leeching in many cases which indicate depletion, will answer as well all the purposes which can be derived from blood letting.

To subdue the velocity of the circulation and the excitability of the system, other measures must be employed, which cannot be obtained from venesection. To accomplish this purpose, Digitalis, and small doses of Tart Antimonia have been successfully used. The former of these remedies though highly recommended by some, I would employ only in the early part of the disease; as its power is apt to accumulate in the system producing its action suddenly, thereby, prostrating the patient.

Among the most important remedies we possess in the early part of the disease

are such as operate through the medium of the skin, or such as establish a regular determination to the external surface.

Blisters, issues and setons, cannot with propriety be omitted in this disease. Fomentations upon the surface with tartar emetic ointment, so as to keep up a continued irritation upon the surface are serviceable. The cuticle stick has been used in the Baltimore Infirmary by Dr N. R. Smith and with decided good effect.

Antimony in minute doses is one of the most valuable remedies of the materia medica in this disease. When carried so as to produce gentle diaphoresis, has been given with considerable effect. These remedies, together with an equable temperature, an unirritating diet and exercise in mild weather will frequently put a stop to the incipient symptoms. Various other remedies have been recommended, some of which are frequently serviceable. Among these are Prussic Acid and Prunus Virginiana; the latter containing no inconsiderable portion of the Prussic acid; and it is obvious that by using an infusion of it, we employ an article possessing powers similar to the Prussic acid. The Prunus Virginiana also possesses a bitter and astringent principle. These ingredients would appear particularly calculated to produce good effects in pulmonary consumption by at once lowering the irritability of the system which the Prussic acid does in an eminent degree

and supporting the strength of the patient by the tonic principle which it contains.

In large doses it diminishes the action of the heart and arteries, and it is by its controlling influence in this way, in consequence, perhaps, of the prussic acid which it contains, that its action has been found so useful, in diseases attended with an irritated or nervous state of the circulation.

Diet

The most careful attention should be paid to the food of consumptives. Where a strong inflammatory disposition exists, only the mildest vegetable diet is admissible; and on the other hand where this tendency is but small, a somewhat more stimulating and nutritious food may be allowed.

The rapid wasting of the flesh, and exaustion of powers of life often appear to indicate stimulants and a more nutritious diet, but if the indications be guided by the cough and embarrassment, as well as other pulmonic phenomena, will be greatly aggravated. Exercise and fresh air deserve a high rank in the early stage of consumption and therefore should be never neglected. Riding on horseback is highly esteemed in pulmonic complaints. The succession given to the body seems in a special manner to invigorate the pulmonary system, and afford marked relief to its embarrassments.

Sea Voyaging in warm latitudes is considered one of the most effective means in eradicating or at least in keeping dormant the tubercular diseases.

The advantages are referable to several causes.

A Sea Voyage is associated with almost constant muscular exertion, and of so gentle a character, that whilst it invigorates, it occasions no undue exhaustion of the living energies. The moist air slightly impregnated with salt, which is constantly inhaled may likewise aid in soothing the functions of respiration, and at any rate, it is apt to be carried on more quietly, and its embarrassments are greatly alleviated. Sailing furthermore tends to diminish the circulation, when unduly excited, and to calm and equalize it; it also quiets the nervous system, and like rocking disposes to sleep. The salutary effects of sea voyages in pulmonic complaints, have been thought to be at least enhanced, by the smell of tar and other resinous substances used on board of ships.

The high importance of fresh air, and daily exercise, as a preventative means to those who are predisposed to consumption, and as a remedy for those who labour under it, treatising in venous is now very generally acknowledged. If therefore the climate in which such unfortunate individuals reside, is so bleak and variable, as to confine them for a considerable part of the year within doors. They should surely migrate, at least during the cold season, and without any delay,

to one whose skies are more genial, and where these inestimable advantages - air and exercise - may be more constantly enjoyed. The climate aimed at should be mild, equable, and moderately moist.

"Where on the face of earth can a habitation be found enjoying in perfection the conditions required in consumption? or where can one be found, in harmony with the variable and irritable feelings of all the motley groups of sensitive invalids who yearly wander forth in search of health! It is ever too hot or too cold, too wet or too dry; in truth elysium could hardly satisfy them all - Banishing, therefore all idea of a faultless climate, we have only to choose the best, which the state of the patient's health renders practicable. Sex ought to influence the decision, females, from their nature, as well as from the customs of society, are far more dependant beings than males. Man may roam the seas and the earth at his pleasure; hardships and change are his enjoyments; the world his home. But woman is more the creature of domestic life; and her happiness is more intimately blended with its quiet comforts and tender associations; and the sacrifice of these often casts a deep shadow over all her feelings, and hence to her travelling is often times a painful task -

"When therefore phthisis is beyond a doubt established, when its existence is fully indicated by various signs, which both science and observation have made known to us - in short when we feel assured that

tubercles and softening, change of climate offers no hope. I am persuaded in those cases where the tubercles already developed are forever to destroy life; with such exceptions it may not only be useless, but may really aggravate the disease, and hurry its fatal termination. There are incidental circumstances too, necessarily connected with this change, which must be more or less prejudicial to the feeble invalid; as for example, the nervous excitement and disturbance associated with preparations for a removal to a distant country; the agitation and mental depression consequent to parting with friends, kindred, home and native land, with the solemn idea resting on the mind that the separation may be final. In this weak and dependent state, one feels with augmented sensibility, the privations of those nameless attentions, and heartfelt sympathies of home, which smooth the sick man's pillow, calm the pains of disease, and render even the visage of death less hideous.

An
Inaugural Dissertation
On
Dysentery,
Submitted
To
The Examination
Of
The Provost, Regents and Faculty of Physic,
Of The
University of Maryland,
For
The Degree of
Doctor of Medicine.
By
Benj. R. Palmer,
of Pittsburgh,
Pennsylvania.

1844.

To

Samuel Chew. M. D.

Professor of Materia Medica and Therapeutics,

In the University of Maryland,

This humble Treatise

Is most gratefully inscribed,

By

His obliged Pupil,

The Author.

Dysentery

I have been led to select Dysentery as the subject of my thesis, both because it is of great practical importance as a disease of more or less frequent occurrence in all climates, and because I had an opportunity, during the last Summer and Autumn, an opportunity of seeing a large number of cases, in a locality where it raged pretty extensively as an epidemic.

Symptoms.

This affection usually comes on with a sense of uneasiness in the course of the Colon, followed by griping pains and frequent inclination to go to stool. As the disease progresses, these symptoms increase in intensity, the dejections consisting only of mucus, or Scybalae and mucus, frequently streaked with blood. Sometimes they consist of blood alone, or a discharge resembling water in which flesh has been soaked. The desire to go to stool is incessant, but the relief is only transient, and the fæces are seldom discharged spontaneously. These symptoms are generally preceded by more or less febrile disturbance, but, sometimes, ~~that~~ fever does not come on until the constitution has become affected by the primary local inflammation, and it is then symptomatic only. The tongue is usually covered with a white fur in the commence

-ment, and the skin dry, but as the disease goes on unabated, the tongue becomes dry and dark, or raw and cracked, the lips dry, the countenance depressed and contracted, the breath offensive, the gums swollen, the teeth covered with sordes, and the disease becomes of the low Typhus grade.

Causes:

The causes of Dysentery are very various, but persons are most generally predisposed to it by exposure to hard labour during the heat of the day, and to the damps and cold night air afterwards. In this state very slight causes seem to excite the disease. Unripe fruit is a very common exciting cause. Ill cured and putrid animal food and mouldy bread, with confinement in close and hot apartments, as on ship board in warm climates, is another cause. It appears that, in the late cruize of the Potomac round the world, an account of which was written for one of our medical periodicals by the Surgeon of the Ship, three fourths of the cases of disease which occurred on board were of Dysentery, occasioned probably by the deterioration of the food from heat and moisture.

Pathalogical appearances.

In Dysentery there is always more or less inflammation of the lower part of the intestines, sometimes only in the colon, but occasionally spreading throughout the whole extent of the large and small intestines - it is however always most marked in the Colon. There are sometimes red patches, covered with

lymph or pus, and large wide spreading ulcerations. In other parts, the mucous membrane is thickened and the calibre of the intestine lessened by a sort of fungous growth. Occasionally, but very rarely, the mucous membrane is covered with vesicles to a considerable extent.

Prognosis

When the tormina and tenesmus decrease, and when the evacuations, after having consisted of mucus, or mucus with scybalae and blood, become feculent and billious, the skin moist, we can predict a favourable termination to the disease.

When, from the commencement, the stools consist entirely of blood, from the depletory effects of the haemorrhage, it is much more tractable.

In the last stage colliquative and fœtid stools, a tongue black, or raw and cracked - the teeth covered with sordes, the lips dry and cracked, the skin dry, the countenance haggard and contracted, the abdomen tender and tense, great prostration a rapid and weak pulse, muttering delirium, stupor, subsultus tendinum, all give us a highly unfavourable prognosis.

Treatment

From the general febrile excitement, the local inflammation, the disordered functions of the liver and the torpor of the exhalants, we have four indications to fulfil, and these have their appropriate remedies. Unfortunately it very generally happens that the physician is not called upon in Dysentery until the disease

has made considerable progress and the irritation and inflammation have become excessive in the colon. Should he be called at the outset, the application of a comparatively mild treatment would probably put an end to the disease.

The most I shall have to say of Dysentery will be of that form of it which appeared as an epidemic, in Pittsburgh, Pa. and its vicinity, in the Summer and Autumn of 1843. This locality is what is generally termed healthy, neither subject to endemic nor epidemic diseases - there is no remittent nor intermittent fever - no malaria or mash miasm - if there be it dont show itself by the characteristic effect of such gases in other places.

The Dysentery of which I have been speaking was usually ushered in with slight chilly, pain in the abdomen along the course of the colon, at first slight but gradually becoming more severe, the evacuations consisting of a small portion of fecalent matter as in diarrhoea, but accompanied with mucus and blood. Added to these symptoms, there was generally bad taste in the mouth, a dry skin and general febrile disturbance.

Gradually these symptoms became aggravated, the desire to go to stool, at first not so urgent, increased, the patient finding little or no relief from the discharge, which now consisted of mucus or blood and mucus with scybalae. The tormina and tenesmus still increasing the patient continually going to stool & expressing himself as though he "could sit on the pot all day," it would

occasionally happen that he could restrain himself no farther than to discharge the contents of the rectum on the floor at the bed side - in this stage the discharge consisted generally of a great proportion of blood, or a bloody mucous.

These were the usual symptoms - they varied of course according to the constitution of the patient.

Causes

The greater number of cases which I had an opportunity of seeing were of the labouring classes - Their diet in general had been tolerably good. The greater part of them had been more or less exposed during the day to the heat and hard labour, and to the cold damp night air afterwards. Unripe fruit was a very general exciting cause.

In a small village, a short distance from the city, whose population are chiefly employed in Rolling Mills, Iron Foundry and glass works, the epidemic raged very extensively - here it attacked individuals of all ages, prostrating whole families at a time. The vulgar opinion was that it was "catching" and, persons were so fearful of the contagion, that it was frequently difficult to obtain proper assistance for the sick. In the end scarcely an individual in the neighbourhood escaped a more or less severe attack of the disease. These people lived on a tolerably good diet and did not partake very freely of fruit, with the exception perhaps of tomatoes, which form, in their season, an important

than of the diet of most families. The predisposing cause could be traced, in most instances, to exposure to heat, during the day, and to the cold night air afterwards. With this predisposition, very slight matters would serve to bring on the disease.

Treatment.

Whether the same treatment, which I witnessed in this disease, would answer for Dysentery as it might occur under a different "epidemic constitution of the season", can only be proved by experiment cautiously made, for I should not consider it safe to administer, the next summer, the same remedies, in the same quantities, in this disease, although the symptoms might seem to be identical with those of the last year, without exercising a great deal of caution.'

The principal remedies, on which reliance was placed, was calomel and opium, with doses of the latter which, under common circumstances, might be considered excessive.

It is well known that in intense pain, as in Acute Rheumatism, Cholera Morbus and pleurisy, patients can tolerate immense quantities of opium without seeming to be influenced by its specific effects. So in severe cases of dysentery, and whoever has tried it, in this disease, cannot fail to have been struck, not only with this fact, but with the magical effect it has in subduing the pain and ~~inflammatory~~ irritation. I do not mean to say that it has the effect of

cutting short the inflammation, although it seems to have some influence of this kind, or that it has a specific effect on the disease, but what I do mean to say is, that it stands in the relation to this disease that splints do to a fractured bone - it keeps the parts at rest, and gives nature and remedies an opportunity to do their work - It is essential in all inflammations that the part inflamed should be kept in a state of repose as perfect as possible.

In this affection of the lower part of the intestinal canal, when the inflammation is once set up, attended with griping and constant inclination to go to stool, the parts are continually kept in motion and the disease, once set going, is constantly aggravating itself.

If we have any remedy by which this symptom can be removed and the parts set at rest, while we adopt the proper measures for the reduction of the inflammation, it is opium in sedative doses. It should however always be prescribed with a great deal of caution, always guaging the quantity by the gravity of the symptoms, as well as the constitution of the patient, and the peculiar character of the disease.

Under the belief that, in this form of the disease, disordered function of the liver was the primary cause, and, with a view to making a sudden impression on that organ, calomel was exhibited in large doses, combined with opium, for the purpose of permitting it to remain in the system long enough to produce its effects, as well as to allay the excessive pain and irritation of the parts inflamed.

Small doses of opium, as two or three grains, being found to be inadequate, in many instances, for this object, it was found necessary to increase it - as the dose was increased, not only were the evacuations altered for the better, but a great and decided amelioration in the condition and comfort of the patient followed. Patients in the aggravated forms of the disease, with violent pain and incessant desire to go to stool, with constant straining, with discharge of mucus and blood, mixed with scybalae, could not only bear an immense quantity of opium, but reaped the most decided advantage from its use. The doses of course were dependent upon the violence of the symptoms, the age and the constitution and previous state of the patients health. Of course this treatment was premised by proper depletion, blood letting, local or general, as the vascular excitement might seem to demand. In those cases where there had been copious discharges of blood, it frequently happened that further depletion was unnecessary.

Local bloodletting, by means of leeches, to the number of from ten to twenty, applied to the anus, and the bleeding encouraged by warm cloths to the leech bites, was found to be the most efficacious. Blisters were seldom employed, unless when the disease had been suffered to run on for a long time without treatment.

Lest it may be supposed that the disease was not of so severe a grade as to require very rigid treatment, it is perhaps

~~be~~ necessary to state that deaths from this disease, in the practice of other physicians, who may ~~have been~~ be supposed to have resorted to the usual means of cure, as well as where it was left to domestic, or no treatment at all, were by no means of unfrequent occurrence. In the particular neighbourhood of which I have been speaking, my preceptor had eighty three cases, two of whom, children, died; one from ulceration of the fauces from the effects of calomel on a peculiar constitution, where only one dose had been exhibited, of some six grains. The other case was in an advanced stage before treatment was applied.

As but small doses of opium, in combination with Calomel, are generally recommended by medical Writers, with the exception of Dr Stokes, who says that in severe cases he should not hesitate to give it to the extent of five grains, it will hardly seem orthodox to recommend the very large doses which I was in the habit of seeing administered. What we wish to arrive at, however, are facts

The treatment found most efficacious, when the tormina, tenesmus and other symptoms were most severe, was, in the adult, after proper depletion, of which leeches to the anus were most serviceable. Pulv Opii gr X to XII or XV according to the urgency of the symptoms and Calomel gr XV to XX

This to be followed in six or eight hours by

Oleum Ricini ℥ss

Oleum Terebinth. ℥ss

Soon after the exhibition of the Calomel and opium,

by its almost immediate sedative effects, the tormina and tenesmus abate, and the patient lies quiet in bed and sleeps perhaps, during the night, from one to two hours, or perhaps not ~~sleeping~~ at all, and has no call to go to stool until the operation of the cathartic mixture of castor oil and Turpentine, when, in general, the discharges become changed in appearance, feculent and bilious, and a gradual amendment takes place.

Occasionally, but very seldom, the symptoms return after eight or ten hours, but a repetition of the same treatment, modified according to circumstances, almost invariably causes the disease to put on a favorable aspect.

To determine to the skin and promote the action of the exhalants, Dover's powder, in doses of from eight to ten grains, should be given every six hours. If there seems to be a disposition to a return of the symptoms, a combination of Dover's powder and calomel, in proportion of three grains of the former to one of the latter, should be exhibited every three or four hours, after the cathartic has operated — the bowels to be afterwards moved by castor oil.

The diet should be very rigid, consisting of mild uninvitating farinaceous substances, allowing as little drink as possible; a recumbent position and absolute quiet should also be insisted upon. In the diarrhoea which occasionally supervenes, after the inflammatory symptoms have been ~~resigned~~ subdued, an astringent mixture of acetate of lead and laudanum is a good preparation

in the following proportions

Tinct. Opii ℥j
Acet. Plumbi ʒss
Aqua Fluvialis ℥j

of which a teaspoonful should be given every three or four hours. An injection of opium, acetate of lead and Starch is also useful in quieting the irritability of the parts as well as for its astringent effects. When there are signs of ulceration of the intestines, an injection of nitrate of Silver, in proportion of three grains to the ounce of water, is an excellent injection.

When Dysentery has been suffered to run on some time before the application of proper treatment, it is of course more obstinate - these cases are sometimes followed by ulceration of the lower part of the intestine, where cicatrices contract the colon and diminish its calibre, so that, for sometime after recovery, the faeces are passed in a long, thin, ribbon like ~~thing~~ strip, and, for some weeks, a sense of uneasiness is experienced in the abdomen, causing the patient to lie on his belly for relief. This symptom however gradually disappears.

In the above mentioned mode of treatment salivation will be of occasional occurrence, it is considered a favourable prognostic sign, and is in most cases, easily controlled. A gargle of common table salt and water, frequently used, or a mixture of oil of Turpentine, Gum Arabic and water, as a gargle, will be found to be all that is necessary.

The epidemic dysentery, as it occurred in the locality which I have mentioned, had peculiar characteristicks, as it seem, and required, in the general, rigid and efficient treatment. All the cases of course did not correspond in intensity, but pretty nearly the same general treatment was necessary. In children of eight or ten years of age, a few leeches applied to the anus, and the bleeding encouraged, to the proper degree, by the application of warm dry cloths to the bites, with perhaps a mustard plaster to the abdomen, and a dose of one and a half grains of opium to five or six grains of calomel, followed in six or eight hours by castor oil, generally gave a favourable turn to the disease - a simple cathartic of castor oil with a few drops of black drop would not answer the purpose, the liver requiring to be acted upon before the appearance of the stools were changed, in which case calomel seemed to be indicated.

In the common sporadic cases of Dysentery, it is not always necessary to resort to very active treatment - in these cases we must be governed as far as possible by the probable circumstances which induced it. If from eating unripe fruit a simple cathartic of epsom salts, combined with an antimonial, will frequently be all that is necessary.

In the variety produced by bad food, such as ill cured, putrid meat, the only remedy is a change of diet.

In the variety produced by heat, accompanied by congestion of the liver, a proper depletion, with calomel, opium & diaphoretics are indicated.

In the malignant Dysentery, occasioned by confinement in close, hot apartments, ill ventilated and bad food, removal to a free air, cleanliness, a generous and nourishing diet and stimulants are the remedies. Dr Potter says that in this low type of dysentery we cannot give too much stimulant, as they have no effect on the sensorium.

It is said that ipecacuanha, in doses of twenty, thirty or forty grains, combined with gentian, to prevent vomiting, exercises a specific effect on dysentery, and cuts it short - if this be true it must depend upon ~~what~~ the stage of the disease in which it is exhibited, for, after the irritation and inflammation of the intestine has been going on for a considerable time, it would be impossible to cut it short by any remedy. remedies may indeed give a favourable turn to the disease.

When dysentery takes on a chronic form, it will be necessary to resort to alteratives, as calomel in small doses, to get the system under the influence of mercury so as to affect the gums. He must also prescribe a rigorous diet of farinaceous, unirritating substances; both food and drink in small quantities, and quiet. When a laxative is required, castor oil is well enough. Dr Eberle recommends balsam Capivaba and Spirits of Turpentine, in small doses. Dr Elliotson recommends small doses of Sulph. Cupri and opium continued for a long time. At the best, chronic Dysentery is a most troublesome disease to treat and sometimes resists all our remedies.

An Inaugural Dissertation On Hydrocele

submitted to the examination of the Provost, Regents and Medical Faculty of the University of Maryland for the degree of Doctor of Medicine

by

Estep Hall
of Maryland

Janry 1844.

Hydrocele

There are few terms in surgical phraseology, in relation to which, there has existed greater diversity of opinion among surgeons as to the precise meaning to be attached to it than that of Hydrocele, nearly every writer on the subject having his own views as to its exact limit, some allow themselves great latitude and take it in its literal signification as having reference to any watery tumor no matter where situated, others again contend that taken in its chirugical acceptation it implies only such tumor when seated either in the scrotum or parts therein contained and accordingly admit five different species of Hydrocele, namely the anasarcous swelling of the scrotum, the Hydrocele of the Tunica Vaginalis Testis, the Hydrocele of the Hernial sac, the anasarcous swelling of the cord and, the encysted collection in that part, but by the surgeons of the present day it seems to be generally understood that this term is only to be used in connection with an accumulation of fluid either in the cellular tissue of the chord, (or in the Tunica Vaginalis communis more properly speaking) or in the cavity of the Tunica Vaginalis Testis, when it has reference to such accumulation in the cellular tissue of the spermatic chord it may be divided into diffused and encysted Hydrocele, the former however or the diffused is looked upon as being very rarely a more a purely local affection

but almost uniformly combined with and forming part of an anasarca depending for its cause upon a vitiated state of the constitution, and such being the case I shall not feel myself called on to notice it in the following treatise, as the treatment for its cure cannot properly be considered as coming within the province of surgery, but shall proceed to speak briefly of the encysted Hydrocele of the chord and afterward to dwell more at length upon that of the Tunica Vaginalis Testis its supposed cause and the different methods recommended for obtaining a cure, but before treating of the particular species of this disease however it would not be amiss for the sake of curiosity to go back one or two centuries and review some of the vague and ridiculous notions entertained by the ancient writers on this subject.

We are, in looking over the opinions advocated by the older writers in regard to this disease, surprised to find authors from whom on some subjects so much correct information can be procured, entertaining such strange and erroneous views in reference to this, but when we reflect on how little was known at that period of the anatomy of the human system and that even at the present advanced stage of the science there are few parts more complicated and requiring from the student more attention and study for the purpose of obtaining a thorough and complete mastery of, than the parts concerned in the production of Hydrocele, and than

taking into consideration the peculiar idea that they had formed of the anatomical structure and disposition of these parts, we can easily imagine how it was that they should have displayed so little of their characteristic penetration and judgement.

In the first place, they imagined that all accumulations of fluid either in the scrotum or chord (and all of which they included under this term) originated from the same cause, and another great and important error into which they were led and the one from which a great many others emanated, was, in supposing that a direct communication existed between the coats of the testicle and the different viscera contained within the cavity of the abdomen, the Liver, Spleen, Kidneys &c. and accordingly they supposed the disease to be dependant on a particular indisposition and derangement of these organs and to be a deposition from these parts, or else, that it was a sort of critical discharge relieving the general constitution of the patient, for we are told by Fallopius an author of the sixteenth century that he had witnessed several severe affections of the lungs relieved by the formation of a Hydrocele, and it was also supposed by some to proceed from a diseased state of the testicle or that it was productive of a diseased condition of that organ, but what surprises us more than all the rest, is to find so late even as

the seventeenth century, a distinguished anatomist Mr Cheselden advocating the strange doctrine that the tumor is formed in the abdomen from whence it reaches the scrotum by rupturing the peritoneum or by pushing this membrane before it

Such being the ideas entertained by these writers in regard to the causes of this disease, it is not strange then that we should find their views in relation to its cure equally absurd and ridiculous, supposing as they did that it had not its origin in any local cause and that it acted in some cases a sort of crisis relieving the constitution from serious disorders as I before mentioned, they were very cautious and particular how they attempted a radical cure, and whenever the cure was attempted the remedies they employed for that purpose had one of three indications to fulfill, either to correct the deranged state of the constitution for which purpose strong purges and active diuretics were employed, or else castration was performed for the purpose of removing the diseased testicle with which they supposed the disease to be in some way connected, or else applications were made to prevent the passage of the fluid downwards from the abdomen into the scrotum, and as is sometimes the case, in fulfilling this indication they stumbled on some of the remedies which applied for a different purpose and in the hands of more modern and experienced surgeons has been the means of rendering the cure of this

disease comparatively easy, I allude to the application of the caustic ~~injection~~ injection &c.

Such then were some of the ideas entertained by the older writers in relation to this disease among whom I may mention Lanfranc, Wiseler, Fabricius ab Aquapendente, Schenkius, Fallopius &c. all or most of them authors of the sixteenth century, and it was not untill the eighteenth century or rather untill the anatomy of the parts concerned had been rendered plain and intelligible by the discoveries of Monro, Haller, and Hunter, was this subject perfectly elucidated, and to the labours of Sharp, Pott, Bell and some others who wrote about the same period, are we indebted for most of the correct information that we have obtained on the subject of Hydrocele.

As I before mentioned, I shall now proceed to treat briefly of the Hydrocele of the Tunica Vaginalis Communis, this tumor when it exists, is usually situated about midway between the testicle and the groin sometimes transparent, and of a pyramidal form, distinctly fluctuating under the touch, and cannot be made to disappear upon any degree of pressure either when applied in the erect or supine posture, not in the slightest degree painfull, and is not at all affected by any muscular action such as is produced

by coughing, sneezing, straining &c. nor has it any effect whatever on the discharge per anum. the cyst in which the fluid is contained is of a smooth and shining appearance internally, and is formed of condensed cellular tissue strengthened externally by fibres of the cremaster muscle; this tumor seldom attains any great size or proves inconvenient from its bulk, though sometimes but rarely it has been known to become so much enlarged as to encroach both on the testicle and groin, but generally speaking it is very small and circumscribed, the chord above and the testicle below being each distinctly perceptible; this species of Hydrocele is not often the subject of a surgical operation being very seldom met with in adults but most frequently in young children, in whom it may be dissipated usually either by frictions or external applications which produce an absorption of the fluid, or the cyst may be evacuated by the use of the trocar and canula, by which means the swelling is not only reduced but often a perfect cure effected; when however as sometimes happens these means prove abortive or the cyst becomes thickened as it does in adults by pressure of the fluid, the cure is to be conducted on the same principles as obtains in Hydrocele of the Tunica Vaginalis Testis, of which disease

I shall now proceed to speak.

Before treating, however of this species of Hydrocele it might perhaps be expected, for a more perfect understanding of the subject, that I should enter into a minute and particular description of the anatomical structure and arrangement of the parts concerned, but as for this purpose it would be necessary for me to commence with an account of the manner in which the parieties of the abdominal cavity as well as some of the viscera therein contained are covered by reflections of the peritoneum, and also to speak of the relative situation of the testicles in the foetal state to this serous membrane, and to trace out in its different stages the descent of these organs into the scrotum, and the manner in which a portion of peritoneum communicating with the general cavity of this membrane pushed and carried down in some degree in front of the testicles becomes after birth a complete and closed sac, cut off from all communication whatever with the cavity of the peritoneum, and forming the Tunica Vaginalis, and as such lengthened description would occupy too much space and be altogether incompatible with a short treatise on Hydrocele, I shall deem it only necessary to mention that the Tunica Vaginalis is a complete and closed sac, formed by what was

originally a process of peritoneum communicating as I before mentioned in the fetal state with the cavity of this membrane, and that this sac is situated rather in front of the testicle, one of its coats being reflected over and firmly adherent to the front and sides of the testicle or its proper coat the Tunica Albuginea.

The cavity of the Tunica Vaginalis being then as we have seen, formed by serous membranes we find in it as in all serous cavities a serous or aqueous fluid constantly exhaled, for the purpose as it appears to be of lubricating and keeping moist the opposing surfaces of the cavity, so as to prevent them perhaps from coalescing or becoming united, in a healthy state of the parts this fluid as fast as it is exhaled is taken up again by absorbents provided for that purpose, so that an undue accumulation cannot exist, when however it happens that the balance between the absorbents and exhalents becomes lost, so that either from a preternatural activity in the exhalents of the part or from the regular absorption of the fluid being prevented, this cavity becomes considerably distended that state of things constituting the disease in question is fully established, what the immediately producing or primary cause, of this affection may be has not as yet been altogether determined upon,

by some, it has been supposed to originate in a varicose state of the spermatic veins* others suppose it to be produced by habitual and powerful muscular exertions which impeding the return of venous blood thereby causes effusion to take place, but the most plausible theory appears to be that advocated by Mr Liston, who considers it to be most usually the result of excited action in the past, caused by internal injuries or blows, which followed by rapid swelling and subsiding after a time, leaves perhaps some enlargement of the testicle, and is succeeded by the gradual appearance of the disease. The tumour caused by this accumulation first commences in the lower or most dependent part of the cavity, its growth in most instances is very slow and gradual, and from this cause and from its being perfectly indolent and attended with no inconvenience in the beginning, it generally attains some size before the attention of the person is directed to it, when seen at this time or before it becomes much enlarged it presents a globular shape, is easily compressible and distinctly fluctuating under the touch, the integument covering the scrotum is unchanged in its appearance; the testicle may be perceptibly distinguished behind

and somewhat above the swelling, and there is no impediments whatever presented to the tracing of the spermatic chord through the abdominal ring, but as the tumor increases in size, its form undergoes a very perceptible change, and instead of being globular it now presents a pyriform figure, the swelling as it enlarges advancing upwards in front of the testicle and spermatic vessels, and in some cases when not interfered with, extending upwards so far as to entirely prevent the chord from being distinguished, at this stage of the disease or when the accumulation has taken place to such an amount, the corrugations of the scrotum are entirely lost, the integuments becoming smooth and tense, and the covering appropriated to this part not being able to adapt itself to such an increase in the size of the part, that of the penis is also included, whereby that organ becomes in such cases completely discernable; the tumor may be now rendered so tense, and incompressible, as to cause some obscurity in relation to the exact situation of the testicle, but by attentive manipulation this organ may be usually found at the back part of scrotum, seated about one third of the distance from the lowest

* Ruysch.

point of the swelling, the fluctuation however remains still perceptible upon percussion; except in some rare cases; and unless there exists some unusual thickening of the membrane, or unless the fluid contained is more turbid than in the generality of cases, the rays of light arising from a candle or any luminous body placed in the proper position will be able to permeate this tumor with great facility; these are the most usual appearances presented by this species of Hydrocele during the gradual formation of the tumor, but as all or most of these appearances are subject to some degree of irregularity, the absence or non existence of one should not be sufficient ground for change in diagnosis; it will also be necessary to mention here some circumstances which will tend to distinguish this disorder from some others with which it may very readily be confounded, the principals of these are a schirrous state of the testicle combined with a distension of the Tunica Vaginalis or as it is termed a Hydrocarcocele and the venereal induration of the same organ attended with similar extravasation of fluid; in the incipient state of Hydrocarcocele, the difference between it and the simple Hydrocele is

rendered very perceptible by the hardness of the swelling its not yielding in any degree to pressure, and by the rough and unequal feel of the surface of the tumor, and by the pain felt on handling it, but in the latter stages when the effusion has increased considerably it will be found difficult with the most attentive observation to mark the distinction, the only grounds upon which we will in some cases have to found our diagnosis will be the degree of pain felt on handling and the previous history of the case.

From the Hernia Humoralis, the Hydrocele is more easily distinguished, the former succeeding or being the consequence evidently of a gonorrhoea, the skin being more or less of an inflammatory redness, attended with a good deal of pain, particularly on being handled, and added to which is the greater weight of the tumor in proportion to its size than what is found in Hydrocele; there are some other diseases also with which the Hydrocele may be complicated such as Hernia, Cirsocele, encysted Hydrocele of the cord &c These complications may have the effect of rendering the diagnosis of this disease rather difficult, and for this reason it will be well to mention the

characteristic signs by which the particular complication may be distinguished; when complicated with the Hernia, the history of the case added to the circumstance of there existing two tumors, one of which being without difficulty made to disappear within the abdominal ring upon pressure, will in most instances enable us to judge of the nature of the existing complication; when the complication with Cirsocele exists, it may be known by the peculiar feel imparted to the touch by the distended veins which can scarcely be mistaken; and by the upper tumor entirely disappearing upon the patient being placed in the supine posture, the characteristic signs of incysted Hydrocele of the chord have already been treated of, and it will not therefore be necessary to mention them again.

We come now to consider of the treatment of Hydrocele; this though a not very painful affection is in most cases so very inconvenient from its size, and so unpleasant from the excoriations produced by its frictions against the thighs, and also from the functions of the penis being in such a degree impeded by it, that a relief from it becomes with most patients a very important consideration; there are on record a few cases in which a

* Pott

cure has been effected without surgical interference, from an accidental rupture of the tumor or from a blow received on it, but as such instances are very rare indeed, it only remains for consideration whether we shall adopt such methods for relief, as will result in a radical cure of the disease, or only such as will prove temporary or palliative.

We sometimes meet with cases where either from age infirmed constitution, or other causes, it may be considered improper to attempt the radical cure of the disease, when such cases meet, it becomes necessary to resort to milder measures and we accordingly use such means as will afford the patient temporary relief without submitting his system to any violent shock, and for this purpose it becomes necessary to evacuate the Tunica Vaginalis, This is a very simple operation and the only thing connected with it which particularly requires our care and attention is the particular part into which the instrument is to be passed, the most anterior of the under part of the tumor as being far that from the testicle is generally recommended; the stilette to be withdrawn immediately upon its entering the Tunica Vaginalis.

A radical and permanent cure of the Hydrocele of the Tunica Vaginalis, has it is said been effected in some cases by the employment of such external applications as produce an absorption of the fluid contained, among other remedial agents which produce this effect, Iodine, and its preparations have been particularly recommended; we will find however except in cases of children and where the accumulation has taken place but to a small amount; that such remedies will avail us but little, and that in adults it would be but a loss of time to resort to them, and the sooner we perform a surgical operation for the relief of our patients the better it will be for them.

The object which Surgeons have in view in the performance of a surgical operation for the radical cure of Hydrocele, is, the production by it of such a degree of inflammation within the cavity of the Tunica Vaginalis, as will cause adhesion to take place between the walls of this cavity, so that it may become completely obliterated, and it becomes a very important consideration with us then in using means for the production of this inflammation; that we should use such as will enable us so to regulate the degree of inflammation, as that it

may not transcend this adhesive grade, in which case unpleasant consequences will inevitably result from suppuration or sloughing; some surgeons contend however that a complete obliteration of the cavity is not essentially necessary in the cure of Hydrocele, but that we may produce such a result by simply causing a closure of the exhalents, this however appears to be rather a disputed point.

For the purpose of producing a radical cure of this disease there have been six different modes of operating practiced, each of which we will find to have been at one time or another strongly recommended by surgeons, these different operations are by Caustic, Incision, Excision, Seton, Injection, and Tent; we find however at the present day that surgeons have almost universally agreed to confine themselves to the two latter modes of operating, namely by injection and Tent, considering them as being less severe and more certain in their effects than any of the others. I do not wish to be understood as saying by any means that the other modes are entirely exploded, for we find that there are one or two of them still practiced even at the present day, and particularly that

operation in which the seton is employed, for in looking over the medical journals of 1836 I found a communication from Mr Green Surgeon of the St Thomas's Hospital in which he recommends the use of the seton in the cure of Hydrocele in preference to any of the others as he considers the degree of inflammation produced by means of it to be much more under the control of the operator; he has however I think entirely failed to establish this fact for in the only case which he has cited at full length in support of his doctrine he had to repeat the operation a second time before he obtained the desired effect, and which case after remaining in the Hospital three months was discharged with some fluid still remaining in the Tunica Vaginalis, what might be said in relation to this report would very readily apply to those in favour of the other modes with the exception of the two latter which I mentioned, and of which I shall now proceed to speak.

And to first of injections. The introduction of the use of injections in the cure of Hydrocele is said to be attributable to an army Surgeon of

the name of Moore who used the apt of wine for this purpose, this was however found too stimulating, and since this day we find the greatest number of different fluids recommended by surgeons such as wine, wine and water, sulphate of Zinc &c Sir James Earle who has written a long treatise on Hydrocele and who is one of the strongest advocates for the use of injections in the cure of it, recommends wine and water to be used in the proportion of two thirds of the former to one of the latter, Sir Astley Cooper recommends a solution of Sulphate of Zinc, and Mr Liston pure port wine, the mode of operating as recommended and practised by the latter gentleman is the following, in the first place the water is to be drawn off by the trocar and canula, the canula is to remain in the wound and to it is adapted the nozzle of a brass stop cock attached to a small elastic bottle containing the injection, this is to be thrown into the cavity of the Tunica Vaginalis untill it becomes moderately distended by it, by turning the cock the wine is to be retained until the patient begins to feel pain shooting upwards towards the loins when it is to be withdrawn, this appears to be a very simple mode

of operating, and I have no doubt deserves a great portion of the praise which has been lavished upon it, but there appears to be one danger almost inseperably connected with it and which has caused this method of operating more frequently to result injuriously to the patient than any other, this danger consists in the possibility of the injection escaping into the cellular tissue of the scrotum either from the canula not being placed properly in the cavity of the Tunica Vaginalis in the first instance, or from its slipping out while the injection is going on either from some awkwardness on the part of the operator or unsteadiness of the patient, when this accident occurs it is followed by the most serious consequences causing abscesses to form and sloughing of the whole scrotum to take place, and in some instances even the loss of the patients life, as this occurance is so liable to happen particularly to the young and inexperienced surgeon I am inclined to think much more favourably of the operation of which I am now about to speak.

The Tent we are told was first used in the cure of Hydrocele by a distinguished French surgeon of the name of France, his

mode of employing it, and object he had in view in making use of it was very different however from that of the surgeons of the present day, his object in employing it was for the purpose after the incision was made and the fluid evacuated, of keeping open the wound, and causing suppuration to take place within the cavity, sometimes this was effected by smearing the linen or sponge with some irritating substance, other surgeons used for the same purpose a canula, which was allowed to remain in for some days, and others again among whom was Sir Astley Cooper recommended the employment of the gum elastic catheter, these methods as may be readily imagined were all found to be highly objectionable, so much so as to cause for some time an almost complete abandonment of the employment of the Tent in the cure of this disease, and it has not been more than a few years since it was again brought into use; in conveying an idea of the most approved method of using the tent as practised by surgeons of the present day I may as well refer to an operation which I had an opportunity of witnessing soon

after I commenced the study of medicine and in which the tent was used with the happiest effect; the subject of the operation was a strong robust negro man of about thirty years of age in whom the fluid had been gradually accumulating for two or three years and whose Tunica Vaginalis at the time of the operation was so distended as to contain at least a quart of fluid; he was seated on a stool fronting the window the operator standing rather in front grasped the tumor with the left hand and proceeded to make an incision of about two inches in length, first through the integuments and afterward through the serous membrane, to the left of the raphe and in the most dependent part of the tumor; after the water had been thus vacuated a tent of linen was pushed up to the top of the cavity and allowed to remain 12 or 14 hours until it was thought a sufficient degree of inflammation had been produced, when it was withdrawn and the wound allowed to close; in a day or two, from the excitement produced by the tent causing a fresh effusion to take place the tumor nearly attained its original size, leading us at first to fear that the disease had returned, in this however we were mistaken, for

this effusion was gradually absorped and in less than four weeks the patient was sufficiently recovered to resume his ordinary occupation without having any fluid remaining in the Tunica Vaginalis; in this case the patient was put under no preparatory course of treatment whatever, nor was it thought necessary at any time to resort to antiphlogistic measures after the operation, with the exception of administering now and then a gentle aperient for the purpose of keeping the bowels in a good condition and with the exception of the first day he was not even confined to his bed but a suspensory bandage was applied and he was permitted to sit up and walk about at pleasure.

This then is the mode of operating to which I should certainly give the preference over all others, as being more simple in its execution, less painful to the patient, and far less apt to result injuriously.

An
Inaugural dissertation on
Dysentery,
Submitted to the examination
of the
Provost, Regents, and Faculty of Physic.
in the
University of Maryland.
For the
Degree of Doctor of Medicine.
By
Joseph Priestley Hall Shipley
of
Baltimore.
1844

To,

Doct. Samuel Chew,

Professor of Therapeutics and Materia Medica, in the University of Maryland.

This dissertation is most respectfully inscribed as a memento of the high regard I entertain for the enobling principles of which you are possessed.

Permit me, my dear sir, at this time to acknowledge my warmest gratitude for the very kind attention you bestowed upon me as a Physician in sickness, and as a teacher in health.

May you ever be enshrined in the hearts of those who can appreciate worth and excellence, and live long to enjoy the merit you deserve, as a strict enquirer into truth as found in Science & to ornament the same as the Christian and Philosopher, is the sincere wish of

Your Friend and
Pupil

Joseph Priestley Hall Shipley

Baltimore 12 Feby 1844

Dysentery

There are few diseases that come more frequently and immediately under the notice of the Physician than the one chosen as the subject of this dissertation, and there is no one I may add which has received more injustice at the hands of those looked upon, as the guardians of the health of the people of our land. The ravages of dysentery have been seen and felt in every season and every clime - sometimes assuming a mild and simple form, and again a more threatening aspect and a malignancy setting at defiance the most learned, experienced and skilled in the healing art

Thus "bright eyed science" has been made to weep for the objects of her peculiar care falling by the hand of death, and have been to those of as much sadness, as rejoicing when rescuing them from the grasp of the monster. I conceive that the young Physician in his first efforts must guard against the confusion of conflicting theories now advanced and maintained and which have flooded the path of medical science. He should take only for his guide through his professional career such principles as are founded upon true Pathology, such as will not disappoint him when tested at the bed side

of

of the sick, such as give the key to remedies calculated not only to restore to health and vigour, those who are afflicted by disease, but to sooth and calm the afflicted frame in a dying hour- But still in endeavouring to avoid these fearful obstruc=tions which stand out so boldly threatening to block up our ways, care must be exercised in avoiding them, lest we run into other extremes; and commit still greater errors.

The historical detail of Dysentery as handed to us through successive ages with the errors connected with truth would be a task upon which, (if a duty) as not necessary I do not now desire to enter. Suffice it to say, that we reverence the Vene=rable "Fathers of the healing art" for their zealous endeavours in extracting light from darkness for so elevated and noble a purpose as that of relieving much of the pain and anguish consequent upon affliction and incident to the human family. However enlightened the present generation may be, still the Juvenile mind in serch of truth must treasure much of worth from the relics of an honored antiquity.

Pathological observations has located Dysentery in the large intestines as an inflamatory disease; frequently extending to other portions of the digestive tubes as well to its

different

different coats. We not only find simple inflamation, but ulceration, sphacelation and sloughing in the Colon, Illeum &c the progress of which is plainly indicated by the many forms which it assumes – In proof of our statement we refer to the preparations preserved by Dr Stokes and described by him in his lectures upon the subject.

In one case there was inflamation, ulceration and sloughing of the Mucus membrane, in an other the whole surface of the Colon was covered with coagulable lymph, in a third, the Mucus membrane was in a state of extensive sloughing abraded and destroyed. It was the opinion of this giant mind in medical and Pathalogical research, that all the coats of the great intestine participated in this inflamatory process except the serous.

These pathalogical facts were not unknown to Hypprocrates Galen and others – Some cases recorded in James's Medical Dictionary prove to a much greater extent inflamation than the preparations &c of Doct. Stokes as before recited.

First. – At a certain season when this disease prevailed as an epedemic at Amsterdam a woman aged about 40 years was seized with the then prevailing Epedemic; and

as

as stated fell a victim to her own folly.— Upon examination after death, the omentum was sphacelated, and of a blackish livid colour; the duodenum and Ilyrunum were full of bile, a Cubit length of the Ileum towards the caecum was Co= =rrupted and sphacelated, the Colon for about fourfin= =gers breadth from the caecum was sound, but for eight fingers further was corrupted, the rectum was sound.

Second,— In the son of Jacobus Fontanus who died of Dysentery when examined after death, there was found from the begining of the Colon to the end of the rectum more than two hundred Ulcers, with impos thumations— some of the ulcers had corroded the whole coats of the intestines, some parts of which were sound between the ulcerations.—

Third.— Upon the examination of an other body after death from dyssentery, the small intestines were found sphacelated in places, their coats corroded and in four places entirely perforated— This individual suffered excruciating pains, and frequently voided coagulated blood in large quantities, to the amount of two pounds at a stool. Other cases might be cited in which we find similar traces of disease, all

calculated

calculated to lead the medical student in his search after truth to some deffinite conclusion respecting this distressing disease. From the muscular fibers being so deeply implicated in this inflamation, we may easily account for the different morbid secretions from the extent of this inflamation.

Causes. — The causes of Dysentery have elicited many curious ideas, which the experience of more modern Physicians have proved to be as falacious as absurd — Sydenham taught that dysentery was frequently produced by suppressed perspiration or the reception of a specific contagion into the body — The Lineal school taught the principal cause, in its production, was by the Larvae of a species of tic, or scaris. Others thought, that it depended upon the irritation caused by ilybala in the Colon; which gave rise to the idea that it must be cured by active purging. Cullen thought cold would not produce it, independent of contagion, which contagion must be previously received into the system — and thinks that this specific contagion must be always the remote cause — Happily for the human family the most absurd of these doctrines have been proven to be founded on false conceptions of the disease, else, the rational cause of treatment, based upon such causes would

carry

carry many ~~to a~~ prematurely to the grave.

The observations of Dr. Wheyne during the epedemic that prevailed in Ireland in the year 1818 afford a convincing proof that the theory Scybala being the great cause of dysentery is erroneous and cannot bear the test of accurate experience. Fruits of different kinds, vegitables, exposure, intemperance have all been said to produce dysentery, and no doubt do, when this disease is met with sporadically. But when dysentery makes its appearance as the epedemic of the season like many epedemics of the atmosphere, when almost every system is brought under its predisposing influence, it only requires any of the exciting causes, such as sudden suppression of the perspiration, exposure to dampness, or rain, eating of fruit or imprudence in diet and other circumstances unnecessary to be named to produce it, in its worst or agravated form - This fact might have led Sydenham, Cullen and others to have supposed it to depend upon the epedemical condition of the atmosphere prevailing as a general cause as far as it extends.

Malaria will not of itself generate dysentery although it is seen frequently in its very worst form in Malarious districts of country; when especially it is complicated with

with biliary derangements and assuming an intermittent form of fever. Thus the leading or principal causes, may give rise to this disease in almost every climate, yet its general character may be much influenced by the prevailing diseases peculiar to such a climate - which must influence considerably the mode of treatment.

During the autumnal months, when the changes are sudden is the time when generally, we find this disease exerting its influence.

To conclude, this part of my subject I will state it to be my humble opinion so far as I have examined the facts. that the principal cause in producing dysentery is suppressed perspiration by exposure to cold or any cause calculated to constrict the extreme vessels.

Symptoms. — In taking into consideration the symptoms that make every feature of this disease; if the Pathological condition of the digestive tube (and particularly the lower portions of it) are brought impressively to act on our minds we are so led to rational conclusions. as regards its symptomatology.

As before stated it is an inflamation of the large intestines

intestines frequently running its course into ulceration, sphacelation and sloughing extending in many cases to portions of the small intestines; and according to the experience of Dr Stokes its ravages are not confined to the mucous membrane alone, but to the sub-mucous cellular tissue and in some cases all the coats except the serous – But I have shown that, in one case there was entire perforation as in typhoid fever ~~often~~ when death immediately supervenes. These facts then lead us to account for that train of symptoms so harrassing and painful to all who fall a prey to this disease.

In its simple form as a sporadic malady there may be loss of appetite, lassitude, pain in the bowels, occasionally chillness, followed by flushes of heat, or fever; pulse somewhat excited, also costiveness or diarrhea preceding the painful gripings, tomaria and tenesmus; which are followed by small discharges of mucus whitish and slymy; frequently, but not always, streaked with blood; absence of fecal matter in the stools &c. As this disease advances or when it assumes a dangerous and alarming character we have all these symptoms highly aggravated; in

some

some cases the evacuations consist almost entirely of blood! Doct. Mosely in his accounts of the Dysentery which raged among the British troops in Jamaica in April 1780 says "that pure arterial Blood, to the amount of several ounces was voided every half hour, and that some bled to death in this manner", these cases were similar to the one I have transcribed in which there was entire perforation of the intestines - In this case the blood which was discharged resembled arterial; and the conclusion was, that it came from a ruptured artery. Connected with all the above mentioned symptoms, we may have a sense of faintiness or sickness and as it advances still further, we have great prostration, pulse small corded and quick; restlessness and anxiety, countenance cadaverous, extremities cold; body bathed in a moist clammy sweat; tongue dry and dark: with other symptoms usually connected with a typhoid condition of the system. There are other symptoms usually mentioned by authors which I have omitted - In every specimen of this disease its minutiæ are made up by a variety of circumstances, and differ from each other; therefore we are led to the conclusion, that

whilst

whilst the most prominent symptoms show us most plainly the disease its peculiar features in individual cases may differ among themselves from accidental causes. Thus we rarely find two cases of intermittent fever alike, in all respects though both may be tertian or quotidian the stamina of the persons affected modify in a marked degree, many of the symptoms in all diseases, this is the case especially in dysentery. To Embody all that we have said concerning the symptoms of this disease, we will use the language of Dr Stokes "It is fever of an inflamatory or Typhoid character, great pain and excessive irritability of the great intestines, morbid discharges of bloody and lymphy matter, twisting pains called Tormina and pequently the absence of fecal matter in the dejections".

Treatment, — Let me observe after a strict examination of the different theories with the courses of treatment pursued by the medical profession, convinces me thoroughly of the important fact, that the judicious Physician in prescribing for the many afflictions to which human flesh is heir, must be guided only by such principles as strictly accord with truth and as ascertained by Pathological inquiry. The

most

most successful prescription in the hands of one Physician may by improper administration (though used in the same disease), prove to be one followed by melancholy results. This fact deplorable as it is, can only be accounted for by careless observation, and prescribing for the <u>name</u> instead of the <u>disease</u>. In the most simple form of Dysentery only a few remedies need be used - simple aperients with, or without an anodyne with quiet rest, and a mild restricted diet may be sufficient to relieve most of such cases - But when it assumes a more inflamatory character, accompanied by chillings and fever, wandering pains in the bowels followed by small discharges of mucus streaked with blood, tormina and tenesmus loathing of all kinds of food &c we should lose no time in endeavouring to subdue it at once. Recourse then must be had to bleeding generally and carried as far as the system will bear it, and repeated in a short time, if the desired effect has not been produced, and the strength of the individual will justify its repetition - Leeches and fermentations should then be applied to the lower part of the abdomen, Calomel; and opium, should be administered so that the excessive pain and irritability be allayed and the secretions restored - Dovers powders

I think

I think preferable to the opium alone, as its effects upon the skin are very marked and certain. In this stage of dysentery opium should be used in large and efficient doses in which form we avoid its stimulating properties and procure its sedative effects. Aperients should be used from time to time to keep the bowels soluable and in good condition. After a moderation of the inflamatory symptoms by bleeding, leeching, firmentations, calomel and opium aperients &c if the disease does not seem to yield entirely. Blisters may be had recourse to, with a prospect of advantage.

Strong purgatives with their drastic qualities we are led to believe cannot fail to do much injury and no doubt, in our feeble opinion, many mild and simple cases have been tortured into those of the most frightful character, by the improper use of such remedies — Reason tells us they must be wrong, and experience says they are so. By many the effects of disease have been looked upon as a cause, and hence in the effort to remove the cause by expelling some irritating substance they are pained to find in the end, they have been fighting a phantom, and their own offspring will ultimatly

conquer

conquer them. The most undoubted authorities can be given for the general remedies that we have laid down in the treatment of this disease.

Doctrs Cheyne and Macintosh give their undoubted testimony in proof of the efficacy of the lancet and the former as regards opium, says "after the lancet it is the best remedy we know of" and adds "if he had to witness an other epidemic as prevailed in Ireland in 1818 he would use it in doses of from 3 to 4 grains".

In many cases we find it necessary to use a combination of Calomel and opium until the peculiar effect of Calomel upon the system is very moderately induced - mucilaginous drinks should be taken through the course of the disease. When the inflamation is of a Typhoid Nature our remedies must differ essentially - care should be taken to avoid all means calculated to sink or prostrate the system, consequently by bleeding cannot be had recourse to, as well as other powerful antiphlogistics. Frequently the greatest object must be to support life by mild stimulents, anodynes, astringents and injections, blistering, swathing the body in flannel, opium. In this form of the disease must and may be given occasionally

occasionally with advantage, many mineral and vegetable astringents have been given after the disease becomes obstinate and will not yield - Sulph. zinc is probably good but the Stryznice better yet.

Thus I have endeavoured to state the most important remedies used in this disease, without entering into minute detail of the many others that have been used successfully, under different circumstances and during different epidemics. Feeling assured that it is upon general principles that all diseases including Dysentery must be treated, and it is only by this means the scientific Physician can reap any reward for his labours. I in conclusion reiterate and repeat what I said in the outset that a close scrutiny of the Pathology of disease will prove a beacon light to guide him when threading the mysterious and difficult labyrinths in which he may too often find himself involved while pursuing the practice of his profession.

An
inaugural Essay on
Scrofula,
Submitted to the examination of the
Provost, Regents
and
Medical Faculty
of the
University of Maryland,
for the degree of
Doctor of Medicine,
by
Edward T. Hearn
of
Louisiana

1842.

To Samuel Chew M. D.

As a testimonial of esteem for his amiable private character, his high mental endowments, and extensive professional acquirements, the following essay is very respectfully inscribed

By his friend

Edwd J. Heard

Scrofula

There are but few, perhaps if any, in the long list of diseases to which man is heir, that is of more interest and importance and requires so great a share of attention and investigation from those engaged in the pursuit of medical knowledge, as scrofula, — rendered so by its very intractable nature and extensive prevalence amongst all classes, — I say all classes; for, although I believe it is pretty well ascertained that those persons are most liable to it, who live congregated together in close and narrow streets, and dark and illy-ventilated and damp and underground apartments, and whose food is bad and scanty, and clothing inadequate to protect them against atmospheric vicissitudes, yet it is also known to prevail to some, if not to a great extent among the higher and overfed classes. The sons of

George the Third it is said, were suffer-
ers from this desease, and it was to hide
the disfigurations produced by scrofulous
ulcers of the neck in the young princess,
that the fashion of large rolling cravats
was introduced. It must not be expect-
ed however, that the student who selects
this as the subject for his inaugural
thesis will be able to say thing new, or
exhibit the opinions of others in a good light.

The true nature of this affection
is now much better understood than
formerly, owing chiefly to the anatomi-
cal and pathological investigations
which the moderns have pursued
with so much industry, and which
so characterize them from the older au-
thors, who knowing little or nothing
of morbid anatomy, referred scrofula,
as most other diseases, to the doctrine
of exclusive humoralism which then
prevailed. These notions were, that
scrofula was owing to some morbid
and peccant humors existing in the
system — notions, which I need hardly

observe, the brilliant pathological researches of the moderns have nearly, if not altogether exploded.

In examining the capillary circulation, anatomists have found that there are two kinds of capillaries, one set for the blood – a fluid characterized by the presence of fibrin, a highly animalized product as containing a large proportion of azote, and another set for the lymph – a fluid consisting chiefly of water and albumen, materials of an inferior degree of animalization, and in which the existence of azote can scarcely be detected. There are many facts that render it highly probable and indeed, I think almost certain, that it is the size that constitutes the only difference between the white and red capillaries. To instance one, and one which in my humble judgement goes far in support of the opinion – It is well

known that the circulation of the serous membranes in their healthy state is entirely white but let there be from any cause whatever an inflamatory condition of the same tissue induced, and immediately blood vessels may be seen ramifying through their substance - The same happens in the case of a mucous membrane - as in that of the conjunctiva where it passes over the transparent cornea - the injected and red appearance of its vessels disappearing with the subsidence of inflamatory action.

Bearing in mind what has been said of the difference of the circulating fluids, we find in examining the solids of the body, the physiological division into white and red tissues - The one, the red tissue, supplied by blood vessels, containing fibrin and colouring matter and endowed with great vitality; - the other - the white - contai

-ning chiefly albumen and of so an inferior a degree of organization and vitality, as in a state of health to be almost insensible to ordinary stimuli.

There is some difference of opinion among physiologists with regard to the vascularity of the white tissues, which, in order to prove the close connection between the white tissues and a white circulation it is necessary to admit. The opinion, or rather notion of one is that the serous membranes and other white tissues are not supplied with vessels and nerves like other parts of the body, but that they are to be considered as a pure exudation. This notion, however, has been disproved by many distinguished physiologists, but by none more than by Graves in his lecture on the lymphatic system. A very brief investigation into the subject will be sufficient to prove almost

incontestably that the white tissues do derive their support from vessels containing white blood. It is hardly reasonable to suppose for instance, and indeed almost as perfectly incomprehensible, that an irritation existing only for a few moments, could be capable of forming new vessels; but it is not dificult to comprehend how vessels already formed might in a short time become sufficiently dilated to admit red blood to circulate in their tubes, which, would at once without any great stretch of the imagination, account for these apparently new creations, which, owing to their extreme minuteness and the colourless nature of the fluid circulating in them before the occurence of inflammation, rendered them invisible. Furthermore, it is known that parts unconnected with any red tissues do and will become red under the influence of the inflammatory

process. Thus, it has been ~~rotatlish~~ established observed, that the lymph which has been effused during a case of pleuritis becomes gradually organized, and ultimately converted into serous membrane, and during certain periods of this process, it has been remarked by many that vessels carrying red blood may be distinctly seen shooting through the lymph which, it is to be recollected, is surrounded on all sides by the original serous membrane. Its organization being completed, a colourless serous membrane is formed, the blood vessels which were so distinctly seen at certain periods of the process having entirely disappeared; and yet, it is a well known and curious fact that the blood vessels will very soon become developed in this new tissue, if any inflammatory condition of it be induced. The great similarity between the

blood and lymph is an additional argument in favour of what has already been said. The lymphatics it is thought and believed by Grauss enjoy a higher function than that of their supposed duty of merely carrying back the debris of the System:- He regards them as the white veins of the white tissues and in support of this opinion instances many striking analogies between the veins and lymphatics — Both have valves for the purpose of directing the contained fluid towards the heart, and in both, the course of the fluid is directed towards towards the organ where it is destined to undergo the process of aeration. The frequent anastomosis between the veins and lymphatics, and their similarity of function as incontestibly proved by Magendie may be added as still farther proof of what has been said.

On examining the different organs and parts of the human body, we find that most of them are composed of red and white tissues; but that some consist of white tissues alone. — Muscle for instance, is composed of muscular substance, which, is red, and cellular membrane which is white, and the same combination of red and white tissue, is present in the parenchymatous organs — Certain structures, however, such as ligaments — synovial membrane — cartilages &c &c are composed entirely of white tissue, so that both enter into the composition of most of our organs; but in some, the white tissues prevail exclusively — Hence is the inference, is a fair one, that the proportion of white solids is in the ratio of the white fluids, and that of the red solids in the ratio of the red fluids — That this inference is clear, is I conceive, estab-

-lished by many facts. — In amphibious animals the fluid is, save the quantity of red blood small, and in proportion as the red tissues disappear the white increase. Compare the difference between the higher classes of mammalia, and the amphibious animals, and in fishes which rank still lower in the scale of creation. In the first the quantity of red blood is greater, and consequently the muscular substance more abundant, as well in the viscera as in other parts — more red and firm, and ~~consequently~~ a greater activity and temperature of the circulation. In the invertebrated animals the red fluids and red solids totally disappear.

Here I beg leave to make an extract from Lawrence's lecture on the lymphatic system which I have before referred to — "The view already taken", says he, "of the intimate connection in all the different classes of an-

-mals, between the development of the white parts and that of the lymphatic system, is easily explained on the supposition of the lymphatics being the veins of the white parts. In invertebrated animals which have no red blood, it would be more rational to call the vessels carrying the white blood back to the heart lymphatics than veins; for it is more consisting with analogy to suppose that in the lower animals, the returned portion of the circulating system corresponds with the former, as in the superior animals the lymphatics are connected with parts, which, in their degree of vitality, most resembles the structures of the lower animals".

"In the higher classes of animals there are not only two circulating systems - one of red blood - and the other of white blood, but also a twofold system of nerves, the

cerebral and ganglionic; the latter of which in invertebrated animals seems to perform all the nervous functions necessary to their state of existence, while these animals are remarkable for possessing only a simple vascular system"

We find therefore a correspondence between the vascular system of red blood and the nervous system of the brain and spinal marrow. They are most perfect in animals abounding in highly aerated red blood, and decrease according to the descending scale proportioned to the decrease of red blood, until at last we arrive at the invertebrated animals possessing no red blood and no brain or spinal marrow"

As confirmatory of what has been set forth in the above quotation I may mention that the human foetus in the earlier periods of its existence, resembles one of the lower or white blooded animals, presenting

the appearance of a white mass without any red tissue or red vessels. As the process of developement goes on, however, the red fluid begins to appear and the red tissues increase, until at length having arrived at the summit of the Zoological scale the predominance of the red tissues is established.

Besides, in comparing woman with man and examining others, we find that the white tissues are more abundant, the quantity of their red blood smaller, and consequently, their muscular developements less, and their constitutions more delicate. Again, we find that the hybernating animals who lap long periods without taking food, are at the termination of their hybernating season much reduced in strength and their tissues paler than under different circumstances. It is reasonable to conclude then, that the proportion of red and

white solids are in the ratio of their respective fluids that the vitality and animalization of the white tissues are of an inferior grade to that of the red - consequently less able to resist death, and more liable to those morbid affections which are diseases of the white tissues, such as cancer, tubercles, ulceration of the cartilages &c - which are of a slow and intractable nature and so little amenable to the means ordinarily employed for the treatment of disease of the red tissues, receiving their nourishment from the red blood, which to use the language of an eloquent modern author, is the true "fabulum vitae - the rich stream by which the nobler parts of our system are nourished" These observations apply to chronic diseases; for we well know that the white tissues are liable to acute and violent diseases - a fact difficult to explain

and apparently at variance with what has been said. I conceive however, that the anomaly is in a great measure explained, but not entirely, by recollecting that the serous tissues are more liable to inflammation in proportion to the quantity of red vessels, or degree of vitality in the organs they cover. The lungs we know are the most vascular organs in the body, and inflammation of the pleura is one of the most common affections - so common indeed, that it is said, that a body is seldom opened without meeting with evidence of its existence at some period or other of the life of the individual. The intestines receiving a greater quantity of blood than the brain, we find peritonitis a much more common affection than arachnitis. Inflammation of the membranes covering the brain, we find indeed to occur less frequently than that of the

serous membranes covering any of the viscera of the three great cavities of the body. Pathologists have observed another fact, which is strongly in favour of the connection between the inflammation of serous membranes, and of the organs they cover - It is this - that that portion of a serous membrane investing a parenchematous organ suffering under inflammation always exhibits traces of the same morbid process. In puerperal peritonitis, that portion of the membrane is inflamed which covers the uterus, which, during the period of utero-gestation has greatly increased in size and received a very large and unusual quantity of blood - Delivery taking place, and the determination of blood having not yet ceased, it is directed to the peritoneum, and often establishes in it - a fatal inflammation - When lymph and serum has been poured out in inflammation of the pleura - a-

we find that effused lymph does not become organized until the two layers of the membrane are no longer prevented from coming in contact by absorption of the fluid, and the costal pleura can come in close apposition with the lung —

It must be confessed, however, that there are still some difficulties attending this explanation; for although there is but little doubt that during the existence of inflammatory action in serous membranes their vitality is increased, it may be asked; why is it that their inflammations are so painful, if their vitality is of an inferior grade? A question, I must confess not very easily answered; but which receives some explanation, by recollecting the dense and unyielding structure of serous membranes, and their constant and uniform motion.

Their sensibility during the existence of inflammation becomes elevated,

and they are endowed with a repro-
-ductive power as is shown in the case
of the formation of synovial membranes.
I have said, that in accounting for
the pain of serous membranes, we
must take into consideration their
constant motion and dense and
unyielding structure; yet even this
is by no means a sufficient exp-
-lanation; for we know that there
may be inflammation of the pericar-
-dium whose motions are constant,
and no pain whatever exist during
the whole course of the disease.
This I believe to be in a great
measure attributable to the fact-
that there is always less pain when
-ever inflammation affects the centrum
parts of an organ than when it is
superficial. Cases are detailed
of deep seated disease of the
brain discovered on post mortem
examinations where there was
never any pain complained of
during life. In deep seated

inflamation of the liver there is little or no pain, but when its surface is implicated in that morbid process, the suffering is very severe - a circumstance owing to the ducts of the glandular portion being accumulated towards the centre, whilst the secreting portion which is endowed with a higher degree of vitality is placed towards the circumference.

The inference then is that what is called the scrofulous diathesis, is owing to an undue preponderance of the white over the red tissues, and consequently that there is nothing specific in the disease - that it is attributable to arrest of development, and seems to be a slow irritation of the lymphatic system, occuring in persons who have a predominance of white fluids and white tissues, and is not owing to any virus or morbid humor existing in the system - as was the old opinion. That the strumous habit is caused by arrest of development

is strengthened and born out by several considerations. The fœtus it is said during a certain period of its existence, is one entire mass of white tissues which decrease in quantity as the individual advances towards maturity until birth, when they become lessened still more, and the red predominate. But should this process receive any impediment either shortly after birth or during life, the vitality of the individual is lessened and he approximates to the class of white blooded animals. The large bellies and heads of infants of the scrofulous diathesis is owing to arrest of developement, should the individual grow up with this preponderance. The large and prominent abdomen is attributable to the size of the liver, which is frequently found very large in scrofulous children, owing to other parts not having increased in proportion. Other facts might be brought forward in support

of what has been said; but as they would prove nothing more than those already adduced, and tend to draw out this paper to an unnecessary length, I shall dispense making mention of them.—

Much diversity of opinion has existed among medical men with regard to the hereditary nature of scrofula—some contending that it is, others that it is not transmitted from parents to their offspring. This is a question, however, not for me to settle, if indeed it has not already been settled; for I consider the arguments in favour of its hereditary predisposition as unanswerable and conclusive—I do not mean to say however, that a healthy child—one free from any scrofulous taint, may not be born of scrofulous and unhealthy parents; or that robust and healthy parents may not have children affected with the strumous habit—such indeed I do believe to be

sometimes the case, attributable in a great measure, however, to the mode in which the child has been raised: either as it has been deprived of, or enjoyed the comforts of good clothing, a pure atmosphere, good and wholesome food, healthy exercise, and freed from all causes capable of producing an increase in the white tissues. It is said, that it will often passover a generation, and that the grandfather and grandson may labour under it, while the sons escape it infliction.

Much difference of opinion has existed also, with regard to the connection between scrofula and phthisis pulmonalis - Some contending that they are one and the same disease - others holding a different opinion. I will not stop to argue the question one way or the other; but merely express what I believe - viz - that they are but different degrees of the same morbid process operating on different organs - that the

one is but a modification of the other - that they are the offspring of the same parent, and although differing in their appearance, possess enough of family likeness to enable one to refer them to a common origin.

"_____ Facies non omnibus una,
Nec diversa tamen, qualem decet esse sororum."

The scrofulous diathesis is generally characterized by certain phenomena, which has been noticed ever since the time of Galen. - The general physiognomical traits of scrofulous children, are said to be, a peculiar delicate and languid expression of countenance - a very white skin; the hair is said to be generally fair and the eyes blue or black - Sometimes the countenance has a soft, pale, flabby, and apparently tumid aspect. The upper lip is generally thick and protuberant, the alæ of the nose large - the head, particularly the posterior part of it, it is said, is unusually large, and the temples flattened and depressed. The intel-

-lectual faculties are developed very early in life, and are of a high order, and great refinement and delicacy of taste. The digestive powers are apt to be weak and irregular, and the bowels either apt to be constipated, or affected with painful mucous diar-rhoea. The active forms of the malady besides being marked by the above symptoms - have many others - such as an inflammation of the edges of the edges of the eyelids, and a constant-ly red and tender state of the tarsi. In very young children, excoriations behind the ears, scaly eruptions about the head and face, persistent opthal-mia, and a fretful and irritable temper. This inactive form of scrof-ula may continue for years, and at last fade off without terminating in any particular local affection. More commonly, however, this disposition acquires strength and under the influence of the usual exciting causes, eventually

makes its appearance in a more obvious form. The lymphatic glands along the neck and other parts become enlarged and firm to the touch, and passing by degrees into slow inflammation, terminates in suppuration or schirrus. The formation of chronic indolent ulcers, which discharge a thin, milky and somewhat viscid fluid, is generally consequent upon the suppuration of these glands. Inflammation of the eyelids and conjunctiva are apt to ensue and become obstinate. When these ulcerations about the neck are established, and frequently a great deal of irritation occurs in the mucous membrane of the nose and bronchia. When the disease advances still further, the thyroid and salivary, as well as the pancreas and other internal glandular parts are apt to become large and indurated. There is indeed scarcely

any part of the system, which may not become the seat of this truly terrible disease. The bones and cartilages are both liable to be affected; the extremities of the long bones enlarge; ulcerations occur in the cartilaginous structures. Some of the bones become carious, - the large joints inflame and suppurate; - In some instances the vertebrae become diseased; and occasionally the bones and soft parts of the nose, palate, and fauces are more or less rapidly destroyed by ulceration. The progress and duration of scrofula is very various. Frequently it is developed in infancy, though seldom making its appearance before dentition commences; but sometimes the constitutional tendency to the disease remains dormant until the age of puberty, and often much later before it makes its appearance in its active form.

The causes that are most frequently and actively concerned in the

production of the scrofulous diathesis, and its conversion into, (when hereditary, as I believe it nearly always is) the active form of the desease, are very numerous. —

The following are reckoned among the most common. Climatic and atmospheric influences — The impure and confined air of populous cities, bad and unwholesome nourishment, with the usual concomitants, filth, and mental depression. — I believe, however, that the free and habitual use of coarse, indigestible, and irritating articles of diet, have a greater tendency to give rise to this desease, than mere deficient and innutritious food; as an undue proportion of such, or indeed any kind, seldom fails to bring on dyspepsia and great irritation of the gastro-intestinal mucous membrane — a condition of the stomach and bowels usually attended with a morbid appetite; more food is taken than

the digestive apparatus can manage, and the gastro intestinal irritation being thus kept up, the chylopoietic and assimilating functions become entirely deranged. It is said also that various diseases tend to the production of the scrofulous diathesis. This is especially the case with measles, scarlatina, and whooping cough. I do not believe that these affections have any peculiar tendency to develope the disease, but that the disposition to it, is produced by calm and errors of diet during the stage of convalescence from these diseases. Whatever, I believe, tends permanently to derange the stomach and bowels, and debilitate the general system during infancy and childhood is calculated and will engender the scrofulous habit, and is sure, where there exists an hereditary or natural predisposition to the disease, to excite it into a state of activity; for it is very reasonable to suppose, I think, that whatever is capable

of originating the peculiar diathesis in question, will be still more apt to call it into action where it already exists.

Experiments have proved that scrofula cannot be communicated contagiously inoculation, or in the manner of a contagion. Individuals have been inoculated with the matter taken from mild scrofulous ulcers without the least apparent consequence to their health. — Although the chance of recovery from scrofula after it has once manifested itself in its active form from hereditary predisposition, is very small, yet Theleine it is well ascertained, that even where the diathesis is manifestly congenital, moderate cases of the disease do sometimes entirely disappear about the age of puberty, or after the corporeal developement is completed, and the age of manhood has arrived, notwithstanding results of a very contrary character most frequently attend these epochs in the physical developement of the

system. Scrofula it is said has been known to be removed by severe febrile affections, ~~particularly those of a violent nature~~ even where there existed an hereditary predisposition to the disease.

More commonly, however, febrile affections, particularly those of a violent nature, tend to aggravate the disease. This is especially the case as I have before said with measles, scarlatina and small pox.

With regard to the treatment of this disease, the remarks I shall make will be only general, as it would be an impossibility, and a perfect absurdity to lay down a course of treatment that would be entirely suitable to every individual case. Constitutional peculiarities, the stage and violence of the disease, and many incidental circumstances, requiring a change and modification in the management of this, as well as all other diseases. The most important step is the avoidance of all the causes

before enumerated that have a tendency to originate the disease or convert the latent into the active form, and the use of such means as are calculated to invigorate the general system, and add to the existing sum of vitality. I do not mean by this, however, a continual administration of nutritive and medicinal stimulants, without regard to the state of digestion and visceral complications; for unless the functions of assimilation be properly performed (which the excessive use of those means calculated to promote would ultimately derange and destroy) the system can never become invigorated or remain in a state of health. Proper dietetic regulations must be enforced then, and the patient avoid all the causes that influence the production of the disease, and the conversion of an hereditary or congenital diathesis into the active form of the malady. Unless this highly important part of the treatment

be rigorously attended to, all others will prove unavailing, and nothing, or at least very little can be accomplished by remedial treatment. In order to give tone and vigour to the general system which to repeat what I have said, is the chief indication to be fulfilled - the patient should enjoy a pure, dry and equable air; be clothed in such a manner as to abviate the influence of atmospheric vicissitudes; observe the greatest cleanliness, take regular exercise in the open air; live upon a wholesome, digestible and nourishing diet, and what is equally essential the stomach and bowels should be made to discharge their chyliferous office, not however by the constant use of everything that has at different times been recommended and employed by Doctors, but by the cautious and judicious use of such remedies as experience has found to be beneficial, either by averting the descent or mitigating its force and intensity. In order then to promote an

restore the functions of assimilation which is so ~~necessary~~ which is of so much importance, it will be necessary at first and occasionally at intervals during the subsequent treatment of the disease, to exhibit some of the cathartic medicines - such as rhubarb and magnesia - senna and salts - compound powder of jalap - sulphur water &c. Moderate purging will quicken the digestive action and increase the activity of lacteal absorption in one direction, and that of lymphatic and interstitial in another, and also prepares the system for the use of the tonics - such as the vegetable bitters - quinine and the preparations of iron, on which, an very able and eminently distinguished professor of surgery gives the preference to the ~~sulphate~~ phosphate: he thinks it possesses some peculiar powers not secreted by the other preparations of this metal. It may be necessary sometimes to exhibit a mercurial purge (at least it is recommended) to unload the bowels

of accumulations which are apt to form, and to promote proper secretions both from the liver and the mucous follicles of the intestines, and thus aid towards a restoration of healthy digestion.

Iodine in its various forms is of frequent use in Scrofula and from the large and respectable amount of testimony recorded in favour of its efficacy, should be regarded as entitled to our highest confidence.

An
Inaugural Dissertation
On
Congestive Fever
Submitted
To
The Examination
of
The Provost Regents & Faculty of Physic
of the
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by
Wm. C. Rutland
of
Tennessee
1844

To the Faculty
of
Physic
of the
University of Maryland
this
Dissertation is Very
Respectfully inscribed
by
The Author

Congestive fever as a disease presents a subject of immense importance to the medical world not only because of its being a very common and dangerous disease as it makes its appearance in some portions of our country but from the fact that it is a disease that unfortunately here to fore has been too much overlooked or neglected by medical writters. and how shall we account for this neglect of so important a subject — is it because the true nature of the disease is not understood or because those persons who have generally written on medical subjects in this country have generally been persons who lived in the northern and eastern portions of the united states. and consequently have had but very little opportunity to become acquainted with the disease as it really exists and if they write on the subject at all must from necessity give us theoretical instead of practical information on the subject. I am disposed to account for their silence from the latter cause. but nevertheless congestive fever is of immense importance to the whole of the southern and western portions of the united states. from thirty seven degrees of north latitude to the moste southern point of the united states there are more deaths resulting from this disease either in its primary and uncomplicated

form or Complicated with some other Malidy than there is from all other Complaints the human family are subject to not Omitting Small Pox and Yellow fever which are known to prevail to an alarming Extent in some portions of the South. and it is Certainly rather surprising this being the fact that we have not had more said about this truly formidable disease by the Medical - Gentlemen practicing their profession in those portions of the United States where the disease is so frequently met with. but as strange as this may seem it is not more strange than the diversity of opinion that Exists as to the proper mode of treatment. In those portions of Country subject to Congestive fever we find the treatment differing as wide as day from night. that is the treatment adopted in one section of Country diametrically opposed to the treatment of another and perhaps adjoining ~~city~~ district of Country. and where this diversity of opinion Exists as to the mode of treating any disease we know that they are all wrong Except one. there can be but one right way of doing anything more Especially in the treatment of a case of sickness. in the following description of Congestive fever I shall attempt to give a plain simple statement of facts as

I have met with the disease in practice. in the first place I shall attempt to describe Congestive fever in its primary or uncomplicated form or true Congestive fever. With the symptoms as they really appear on the patient at the various stages of the disease and the treatment proper in such cases. in the next place the symptoms of Typho Congestive fever and the treatment proper.

3rdly Congestive Complicated With gastro Enterites the symptoms and treatment

4th Congestive fever with what I shall denominate an Attaxic or putrid Diathesis symptoms and treatment

1st of Congestive fever in its common primary or uncomplicated form you find the patient laying on his back Complaing of a sense of weight tight up or Constriction over the region of the Chest and stomach breathing rather irregular and somewhat laborious Every third or fourth breath he draws he makes a long and apparently deep inspiration or it might perhaps be better designated as a sigh frequently manifesting a strecky gapeing disposition complaing of wandering pains in the region of the dorsal and lumber Vertebre head and extremities and a distressing general feeling of malaise or nervous depression. his Countenance expresses a great deal of anxiety and suffering

assuming rather a brick and frequently some what a livid appearance. if you feel of his skin you will perceive that it presents a very dry feel at the same time that it is more cool towards the extremities than natural. and on examining the skin closely you will perceive that it presents to the eye a constringed or brick appearance. he complains although his skin on the surface feels cool (with the exception of the body) of burning up with fever. if you examine the tongue you find that it presents a moist appearance and instead of yellow billious coat as in common billious fever that it is covered with a thick tenacious ropy or perhaps rather glaing looking saliva. and if you put your finger on the surface of the tongue it moste generally has a cool ~~feel~~ clamy feel ~~instead~~ instead of the ordinary feel of the tongue. he will tell you that he has a very oppressive sensation about the regions of the stomach and occasionally reching to vomite with distressing nausia. you will notice that along at first the efforts to vomite will result in nothing more than the throwing up of ~~a small of~~ a small quantity of very thick viscid ropy phlegm or mucous. the bowels at the same time perhaps and in fact are moste generally

at this period of the disease in a Costive Con
dition though Occasionally they are afflicted
with Diarrhea. Sometimes the thirst is very ur
gent then again perhaps there is scarcely any
thirst present. if you Examine the pulse
you will find it weaker apparently than
in health not so large in Volume and Easily
compressed and the pulsation seems ~~to~~ shorter
or as it were cut off with a kind of a
click. manifesing in the feel and manner
of pulsating a lack of the proper quantity
of blood this is what I should denominate
the first stage of the disease and on En
quiring of the patient how long they have
felt unwell they will tell you very likely
that they have ~~felt unwell~~ had the premon
itory symptoms of an attack of fever for
some two three or four days. such as the
chiring chilly sensation or pains over the sys
tem generally in fact that particular sensation known
to medical men by the term Malaise or derange
ment of the nervous system. now if I were
called into a case at this stage of the disease which
I denominate the first or forming stage. the first
thing I would do would be to cord up the arm
and bleed the patient not any particular quan
tity but bleed as long as they can bear the loss

of blood without inducing syncope. in the 1st place I would give an active dose of Ipecac huana I would give it in a full dose and if it did not operate pretty soon I should repeat the dose so as to produce full and free vomiting this would have a tendency to dislodge the thick viscid mucous or phlegm that I have heretofore spoken of. it would also have a tendency to equalise the circulation by producing a powerfull revulsive effect on the general system this is one known effect that emetics have on the human system. and at this early stage of the disease there can be no danger in making use of this kind of an emetic ~~of~~ because the general strength of the system and nervous energies have not been broken down by the disease. the emetic also has a tendency to restore the secretions of the skin by producing a determination to the surface and opening the pores if the question is asked why not take some other article as an emetic in preffence to Ipecac huana ~~as an emetic~~ for instance tartarized antimony as that article is known to exercise a powerfull power over the secretory organs of the system more particularly that of the skin besides being a general alteration. I would answer because the Ipecac takes the energies of the general system less. the antimony has a tendency to produce irritation and

inflamation of the mucous membrane of the stomach and bowels with their thin watery Evacuations thereby destroying the strength of the patient. and breaking down the Energies of the System it also induces Extreme distressing and permanent nausia thereby lessening the force and action of the heart and Arteries consequently increasing and agravating the Existing Congestive Condition of the System. thereby preventing reaction in the System without which the patient must Certainly die. While on the other hand the Ipecacuana will Counteract the gastro Enterites if it is already present or if there is a tendency to the supervention of the inflamation of the Mucous membrane of the digestive Canal it will more Certainly Counteract it than any other remedy we can administer. the Ipecac is also a powerfull Antispasmodic it has a decided and powerfull to overcome the spasmodic Constriction of the Capillary Vessels. Which is one of the moste Constant and moste dificult Systoms in the treatment of Congestive fever. it produces the revulsive Effect in a more powerfull degree perhaps than almoste any other Emetic from the fact of its possessing Antispasmodic properties and from the fact of its operating with so much promtness and actively. the Ipecac produces a nausia slight at first compared

with some other Articles and passes off almoste as soon as the Vomiting Ceases. and succeeded almoste immediately by a state of reaction or a tendency to reaction which renders its ultimate Effect more that of a stimulant than that of a depressant. and from that fact not impairing the general strength of the system or prostrating the Energies of the system relieving and as it were giving an impulse to the nervous Energies if after giving the Emetic and it has operated the Congestion is not pretty well overcome. if from the state of the reaction and Character of the pulse with the other general symptoms the patient can bear bleeding without danger of producing Collapse I would bleed again. being governed by the same rule as in the first bleeding that is not to be governed by quantity at all but by the Effect produced and by the Capability of the patient to bear bleeding but whether it is prudent and proper to subject the patient to Venesection at this stage or not the practitioner must depend on his own good sense and judgement to direct him governed by the foregoing rules. if there should be much Coldness of the Extremities I would make use of Counter Irritant Epithetants and revulsives by applying mustard plasters to the Extremities and warm Bricks to the feet --

And I would now give a dose of Calomel and Opium say ten grains of Calomel with two grains of Opium the Effect desired to be produced by this dose is to unlock the secretions and restore the Equilibrium of the Circulation if the Medicine should produce reaction and there still remain a considerable degree of Congestion I would again bleed if the Congestion should not have been Entirely removed by the Course already laid down at the End of four hours I would repeat the dose of Calomel and Opium. if the Medicine does not opperate in ten hours from the time the first dose was given a small dose of Castor Oil should be given to assist the operation or the same end can be accomplished by a mild injection which would be preferable if there is any Irritability of the stomach which is very frequently the Case if there should be much thirst I would let the patient take a moderate quantity of some pleasant tea I have had Sage tea answer a very good purpose it not only quenches the urgent thirst in a great measure but seems to Exercise a beneficial influence in assisting the Medicine in overcoming the Congestion by its Sudorific properties. it is necessary to Exhibit the Mercury in Combination with Stimulants and Antispasmodics untill the secretions are perfectly unlocked which will be known by the Character of the Stools when the liver begins to

it throws off large quantities of vitiated bile generally at first of a very dark appearance. and it is necessary to administer the mercury in such a manner and at such times that its influence on the liver shall not subside untill that viscus secrets healthy bile which of course will be known immediately on its appearance by the yellow healthy appearance. at which time waste generally the congestion disappears. when the congestion disappears all that is necessary to be done is to keep the bowels open and administer mild sudorifics to keep up the action of the secretory emunctories of the skin. if reaction should appear to take place in a very decided degree it can very readily be controled by Digitalis and Spirits of Nitre dulcis of course be governed in the quantity given by the urgency of the symptoms that indicate its use. I have made a great deal of use of the Digitalis in cases of fever when there remained too much activity of the heart and arteries after general depletion by venesection I have administerd it in doses of twenty five drops with the happiest results. this is a large dose larger than would be prudent to venture on the use of when you first give it. I generally prefer to give about twenty drops of the Digitalis combined with one or two teaspoonfuls of Spt Nitre and increase the quantity of the Digitalis from that amount if I find it necessary. as I said before it is very important to keep administering

the Calomel occasionally in small doses to keep up the action of the liver untill the healthy secretion is restored if you dispense with the use of the Calomel sooner there is great danger of relapse even after the patient appears to be almoste out of danger for it is universally the case that if the liver becomes torpid before the congestive symtoms have entirely disappeared that that the congestion appears again almoste immediately. and I have known several fatal cases from neglecting to keep up the influence of the mercury over the action of the liver. neglect of this kind for the space of only one or two hours will frequently sacrifice the life of the patient. so you will see at once that it is wholey impossible to tell the number of doses of Calomel that may be necessary for any one case ~~of~~ or the time you should giving the medicine this depends entirely on the obstinacy of the attack of congestion. one or two doses may be enough to over come the congestion and again if the attack should prove to be an obstinate one it may require a dozen or twenty the only rule to be governed by is to keep administering it untill you produce the desired effect and then so soon as you have done that dispense with the Calomel immediately or you will salivate the patient on the other hand

you need have no fears of inducing Salivation While the Congestive State remains for Congestion and Salivation in the same patient at the same time is what you never meet with they are wholely incompatible we come now to the second form of Common or primary and uncomplicated form of Congestive fever in this form of the disease you meet with all the symptoms that were present in the foregoing form of the disease but in a much more Violent a degree the patient now Complains of Extreme oppression over the region of the thorax and stomach they frequently liken it to a heavy weight laying on them that it appears like it weighs four or five hundred pounds they Complain that they have not room to breath imagine frequently that the Ceiling of the room they happen to be in is too low and frequently appear to think that if they were removed into the Open air that they should be Enabled to breathe With more Ease and Convenience to themselves the pulse is more Easily Compressed than in the preceding form of the disease. and rather intermittent the Extremities are Cooler the region of the Chest and Abdomen appears sometimes hotter than natural and they Complain of great internal heat they have Extreme Nausea which induces Vomiting and this apparently affords temporary relief from the Nausea but it soon returns and another

spell of retching and vomiting again appears to afford
A short respite to the distressing nausea. the appearance
of the matter vomited for a few times along at first
is of a dark appearance gradually becomes very dark
I have frequently seen it appear as dark as coffee
grounds and not very unlike them in appearance
the bowels at this stage of the disease is almoste uni
versally obstinately costive and the abdomen presents
rather a tumid ~~appearance~~ or swelled appearance
after an hour or ~~two~~ the patient begins to complain
that the matter thrown up is very sour so much
so that they immagine that the fluid thrown up has
denuded the surface of the fauces and tongue and
mouth. after the acid on the stomach makes its appear
ance the appearance of the matter thrown up chan
ges its appearance and becomes of a greenish hue
at first then assumes a deep peculiar green app
earance such a green as I am not able to describe
but different from any green collour that I have
ever seen towards the bottom of the pot there is
a kind of flocculent or membranous mucous looking
substance. it also presents this peculiar green appear
ance the bowels which before were locked up now
begin to act and the patient discharges the same
kind of matter from the bowels that he throws up
from the stomach ~~out from the stomach~~ and discharges
large quantities he has to be up to the pot

every twenty or thirty minuts sometimes oftener than this even. there is not a particle of bile in the discharges upwards or downwards the patients strength unless he is relieved now begins to fail him they fast the little blood before circulating in the surface of the body and extremeties now recedes the congestion great. medicine given in ever so large doses at this stage of the disease appears to have no effect. there appears to be an inverted action in the whole system there appears to be a great determination of blood to the centre instead of to the surface a centripetal instead of a centrifugal action if I may so term it there appears to be great insensibility of the system generally so much so that vitality appears to be so nearly destroyed that I have seen cases in six hours from the time the patient went to bed that blister plasters would have no more effect on the skin than they would on oak plank. in fact in one case of this kind I tooke a flanel cloth and spirits of terpentine and made friction on the insides of the ankles and wrists untill the parts were almoste raw and then applyed mustard plasters to the parts so rubed and they had no effect not even producing the slightest pain. I have seen medicine calomel and opium given in large and repeated doses at this stage of the desease camphor cayenne ether spt amonia and all of the moste powerfull and stimulants

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of the moste diffusible nature and they none of them appeared to have but very little if any Effect. and of Course the patient died in a very short time. it is very natural to Enquire what would do any good if none of the moste potent Articles of the Materia Medica not Even blistering Ointment Will have any Effect on the System I would make answer and say bleeding would do good by puting the system in a situation for the Medicines to have their usual Effect on the Animal Economy in an attack of this kind all depends on the decision of Character firmness and nerve of the Physician (provided he understands symptoms) if he wavers or lacks Energy at this Chisis his patient is doomed to die the Physician when he finds his Patient With one of those Violent attacks of Congestive fever should in the first place give ten or fifteen grains of Calomel Combined With Camphor and opium apply mustard plasters to the Extremities and hot locks or bricks to the feet give him hot Brandy and Cayenne internally and in as large portions as the patient Can bear it. after he has done this Cord up his Arm and bleed him. it is now necessary that he should rely upon his Own good Judgment as to the Amount of blood he may Venture to abstract. after he opens the Vein he should keep his fingers on the pulse Constantly and be Cautious to not bleed untill

it brings on fainting for if he does it may induce collapse which would almoste necessarily prove fatal but bled as long as he can without producing fainting when he finds he has drawn as much blood as would be prudent tie up the arm and continue the use of the stimulants in as large quantities and as often repeated as the patient can bear and as soon as the pulse will justify bleeding let him have recours to the bleeding and not be governed by the quantity of blood drawn from the system. but by the effect it produces on the system there is no kind of sickness that I have ever seen where so much depends on the judgment and energy of the physician a lack of either of those requisites is necessarily fatal to the patient. whatever is done must be done promptly as without relief the patient must sink under the disease in a very short time. I would give calomel combined with opium and camphor every four hours untill the liver is roused into action. I would then administer the calomel often enough to keep up its influence over the liver untill the congestion is entirely overcome or the secretions of the liver assumes a healthy and natural appearance when ever this result is obtained the congestion will always subside. if I were asked how bleeding acts on the system to enable the medicine to have the

desired Effect I would answer that the Cause of the insensibility of the System to the Effects of Medicine in the first is owing to the great degree of Congestion present the internal Organs is Engorged and Overloaded with blood to so great a degree that the functions of the Organs are Suspended in a great degree or Carried on Very fubly the Congestion takes place in the Venous System which is Surcharged with blood While the Arterial System is fufering a defficiency of blood now by giving powerfull and diffusible Stimulants and Antispasmodics internally it has a tendency to determine to the Surface and by abstracting the blood from the Superficial Veins it makes room for a portion of the blood that the internal Organs are labouring under thereby inviting the blood from the internal Organs to the Surface and Extremities thereby acting as a revulsive you must act prudent and not take too much blood at first so as to induce fainting or Syncope which would Endanger Collapse taking place. but by Continuing to give the Stimulants and Antispasmodics as the Congestion gives way to the bleeding assisted by the Medicine then Consequently more and more blood may be taken at a time as more and more reaction takes place ~~you~~ with determination to the Surface

Without Endangering Collapse taking place. and when you overcome the Congestion to a certain degree the Calomel commences having its Specific Effect or influence over the action of the liver. the discharges begins to show some appearances of bile and whenever the liver begins to act pretty freely the Congestion gives way very fast and it is necessary to discontinue the use of the Calomel for fear of producing too much Ptyalism. all that is necessary now to do will be to keep the bowels open and give gentle Sudorifics and keep the patient quiet and let them partake bland light and digestible food for a few days by which time moste generally they will be out of danger. my reason for making use of mustard plasters instead of blisters on the Extremities is that the mustard produces more ~~and more~~ permanent warmth than actual blisters. besides untill partial reaction is restored the blister would have no Effect. the mustard plasters will produce Irritation when sensibility has so far subsided in the surface of the Extremities that blisters of Spanish flies will have no Effect. I would apply a very large Blister over the region of the stomach in the first part of the treatment at the same time I put the mustard plasters on the Extremities because a blister will draw in this region after the Extremities have become insensible to their Effect

I would apply the actual blister in this region and give it the preference over the mustard plaster because if it runs freely it has a tendency to relieve the internal organs immediately beneath its surface. and has a more powerfull Effect towards Checking the Vomiting. there is one symptom that I neglected to speak of in the proper place and that is the dry Condition of the Skin during the Continuance of the Violence of the Congestion there is not the slightest appearance of moister. not Even in the Violent retchings and straining to Vomit. instead of the skins becoming soft and moist as in Ordinary Cases of fever it assume a more brunk and pale appearance and becomes Cooler to the feel but not the slightest particle of moister Can be detected after the most Violent Vomiting. the skin during the Continuance of the Extreme Nausea and Vomiting has a very singular feel it has a kind of glazed feel. and something like a shining sort of appearance like there had been a very light Coat of tallow put on it and then suffered to become Cool and when this state of things exists. When the symptoms I have Enumerated in this form of Congestive fever are present Medicine will not have any Effect or at least but very little Effect on the system untill bleeding is resorted to and in fact I have never known

A Single Case with the Symptoms before Enumerated ~~than~~ to recover where bleeding was not had recourse to. Calomel will not have any more Effect than so much Calcined Magnesia would nor Could the Equasting Evacuations from the bowels be Checked not Even by immoderate doses of Opium Kino-nut galls and all the other most potent astringents without the use of the lancett and by the prudent use of this instrument I have seen many Cases with all of those alarming Symptoms present get well and I am Confident that there would have been no Chance for them to recover without being bled. The first Six or Seven Cases of this Violent form of Congestive fever that I attended was generally in Consultation with other Physicians as many as some four or five Physicians saw those Cases at different times and with some of the Cases there was as many as three Physicians in Constant attendance and Consultation. And Every one of the Cases terminated fatally one after the other generally by or before the fourth day although we made use of the Medecines mentioned before and gave them in some of the Cases in immoderately large doses and repeated them often still they would appear to have little or no Effect death was the result in all the Cases and it was the opinion of the Physicians that to bleed was present death in this Stage of the disease

and I believe that this opinion is now Entertained by at least three out of Every four Physicians in the South and West and posibly by a much larger propotion of the profession than this where the true Congestive fever prevails. and the prevalence of this opinion I must think is one Cause of the general ~~obs~~ observation in the South that the stoutest most Vigorous die soonest with the Congestive fever. it is a singular fact that in as many Cases of Congestive fever as I have seen I never yet have seen this Violent form of the Congestive fever attack any but stout Vigorous Constitutions generally those in whom the sanguineous temperament predominates and generally those in the prime of life. this is a fact that I am unable to account for unlep it is because that the natural strength and Vigor of Constitution Enables them to resist and Combat the predisposing Cause to a much greater extent than those who are weaker and that when the Exciting Cause produces disease at all it is Consequently more severe. and there is an other Circumstance Connected with this form of the disease that seems to me rather strange and that is this frequently the most Violent Cases met with occur in places remote from swamps and what we would suppose would be a predisposing Cause of the

Disease Malaria from the decomposition of Vegetable Matter. Many of the Moste Violent Cases of Congestive fever that I have met with have occured in high Elivated situations where you would scracely Expect to meet with the fever at all I have Noticed for several years that at the same time the people living in the River bottoms become afflicted with Remitent Intermittent and Continued fevers of A Typhoid type in Longer that those persons living out on the Creeks and uplands Remote from the River bottoms would become subject to attacks of Congestive fever frequently of the Moste Violent form. it was in the year 1838 that I first adopted the practice of bleeding in this disease and under the following Circumstances I was sent for to A Mr Tapley Allaming aged about thirty years A Very Stout Athletic man with A fine Constitution and Sanguinous temperament. When I arrived I found him precisely with the symptoms I have Mentioned and I looke on his Case as almoste a hopeless one as Every Case with similar symptoms that I had previously been had died although they had been treated in the Moste Energetic Manner and that treatment persevered in untill they had sunk beyond all hope of recovery. he told me he felt pretty confident he must die Complaind awfully of

the pressure and weight over the region of the chest and stomach vomiting almost continually in fact all of the symptoms before described. but if I thought that I could do anything for him he was willing that I should try any experiment I pleased that unless he received some relief speedily he could not stand it. I reasoned with myself thus all of the cases that I have seen like this one have died and with the same course of treatment he must die. if I can sustain and enable him to bear blood letting will that not put his system in a situation for the medicine to have the desired effect I think it will at least it can not result in anything worse than death and that result must take place without the bleeding before long the most harm the bleeding can do will be to bring on collapse and death a few hours sooner than it would otherwise ensue and the bleeding may save him. accordingly after making use of the medicins and applications mentioned before I corded up his arm and bled him about a pint and a half and found it necessary to stop the blood for fear of bringing on collapse but I plied him industriously with antispasmodics and stimulants internally untill I found I could venture on bleeding him again I did not notice the amount of blood I took this time for I had him in the chamber pot but

Kept my fingers on the pulse. his feeling must have been very bad for he said once or twice that he was dying but I paid no attention to that I was determed if there was any virtue or benefit in blood letting to have it. but as soon as his pulse gave indication of there being danger of indicing syncope I stoped the flow of blood it was about 2 oclk when I first saw him and I set by his bed untill next morning and from 2 oclock in the Evening untill six oclck next morning I bled him six several times and I must have taken in that time something near a gallon and half of blood from him Even yet the Calomel had had no perceptible Effect on the liver nor did he have any bilious discharges for the space of thirty six hours from the time I gave him the first dose of medicine when I returned to town next morning after bleeding him so severely. I happened to speak of the treatment I had subjected him to and it created a good deal of noise amongst the Doctors they said that Capt. Manning would certainly die that it was present death to bleed in Congestive fever and I verily believe that if he had died that it would have been attempted to take me up and have had me tried for mal practice or man slaughter or something of the kind

but the Congestion gradually gave way to the treatment. but I was so anxious that he should get well and for fear of a relapse I Continued the use of the Calomel longer than was actually necessary after it began to Exercise its Specific influence over the liver and Secretory organs generally. and Consequently I Salivated him pretty Severely but he now is as Stout a man as Ever he was in his life I had no difficulty in Controlling the Salivation by the means generally had recourse to in such Cases. Some five or six days after the above Case I was Called to see Mrs McGee a Very Stout healthy Widow Lady who had led a Very active life She Superintended the Management of her own farm and Consequently took a great deal of Exercise She was about fifty years of age the oldest person that I have seen with this Violent form of the disease She had all the Symptoms mentioned as Characteristic of the Violent form of the Congestive fever Only I was sent for rather Sooner in the attack in her Case than in Mannings it was the first attack of Congestive fever She had Ever had and the oppression about the Chest and Stomach was Very Severe and the difficulty of respiration was

so great that the old lady supposed that She must Certainly die and sent for her Children to Come and see her die. She said that her feeling were Very different from any that She had Ever Experienced in any former attack of sickness she had Ever had and unless She was relieved Very soon She must Certainly die I pursued the same Course as in Mainings Case gave her Opium and Calomel applyed the Blister to her Stomach Mustard plasters to the extremities and a hot brick to her feet and then Corded up her Arm and bled the old lady at least three pints with the happiest results I again administered some powerfull and diffusible stimulii after bleeding her the Medicine acted finely it was not necessary to bleed her any more in this Case the proper treatment was had recourse to Earlier in the attack than in Mainings Case Consequently the Congestion was not so great or not so firmly Established and I Could Carry the bleeding to a greater Extent at the outset or at the first time of bleeding this seems like a Very large bleeding in the Case of a lady Especially of one of the age of Mrs McGee Nevertheless I am

induced to believe she would not have done well with less must ~~have~~ certainly have died if she had not been bled at all. and if the Congestion had not ~~been~~ given way to the first bleeding assisted by the medicines that I gave her I should most certainly have bled her again and continued to do so as often as would have been prudent untill I had subdued the Congestion. as it was she commenced mending directly and is now enjoying as good health as she ever did in her life so far as I know. the success of those two cases determined me to adopt the bleeding in Congestive fever and the more I practice it the more firmly I am convinced that it is the true course of treatment and in fact the only one that will do in the violent form of the disease. it is very true that in the mild form of the disease it may be cured without bleeding but even in the mild form of Congestive fever the patient gets well much sooner by employing blood letting and the very violent form of Congestive fever can not be successfully treated without bleeding. I do not speak from hear-say evidence or theory but it is from actual experience as I have met with it in practice. I have seen many cases of Congestive fever when

It exists uncomplicated from the mildest form to the most violent form that it ever assumes I have seen it complicated with other diseases in various degrees of complica=tion in some cases where the symptoms were so mixed and blended together that it was hard to say which set of symptoms predominated those of congestion or those of the disease that happened to be combined with it but of all the diseases that I have ever met with I con=sider congestive fever the worst and most dangerous if neglected or badly treated in the outset of the disease not excepting small pox or asiatic cholera and I have witnessed a good many cases of both of those diseases in their most virulent and most malignant form as well as the milder forms of those diseases. We come now to speak of the third stage of common primary or uncomplicated form of congestive fever which constitutes collapse which might be disposed of in a very few words as it usually has but one mode of term=inating and that is in death that is known by coldness of the surface of the body generally colliquative diarrhea

sunk appearance of the Eyes a purplish or livid appearance of the Skin of the body face and lips. hiccough or sengul=tus stupor and delum manifested by low muttering sometimes when the Congestion of the brain is very great stertorous breathing with froth at the mouth a ten dency to slip down towards the foot of the bed every thing that would indicate the almoste total prostration of the nervous Energy in fact the recuperative powers is so far Exausted that there is no reasonable hopes of inducing reactionts take place I myself have never yet seen a case of what I would Call ~~the~~ Collapso in Congestive fever that recovered from it. the indications are of course to admin ister the moste powerfull and diffusible and Volatile Stimulants such as sulphuric Ether Carbonate of Ammonia spt Amonia Camphor and such like Medicines which may suffice to retain the breath some few hours longer in the body but can passibly be of no permanent benefit. there could be nothing like blood letting resorted on in this case it is Contra indicated by all of

the symptoms present: the Vital Energies are so far spent that there could possibly be no reaction of the system hoped for after letting blood if in deed you could induce the blood to flow which I think very doubtfull if a person should be so lost to reason as to try to bleed under those symptoms. I am confident that no one acquainted with symptoms and the treatment of disease would make the atte=mpt unless he was Either a fool or a mad man. there being no reaction you would only hasten the patient on to that Bourn from whence no traveler returns where he is shortly bound to go any how but it is very necessary to be on our guard to not mistake the violent form of the disease mentioned immediately before this stage of the case for Collapse for in that case the only Chance the pate=nt has for life is in the judicious use of the lancet first thereby putting the system in a Condition for the Medi=cines that is administered to have the desired and usual Effect that the Medicines should have on the human system.

Agreable to the manner in which I laid out the subject of Congestive fever we come now to the consideration of Congestive fever in its complicated form. and of the complication that I shall now speak it is a subject of great importance it is the complication known as typho Congestive fever a Typhus fever of a Congestive type some times a Congestive fever of a Typhoid type owing the distinguishing appelation of Typho Congestive or Congestive typhus to the fact of one or other of the characteristic diseases of which it is composed predominating over that of the other
this disease prevails to an alarming extent in some parts of the south and west and it is this fever and nothing more nor less than this fever that so much is heard about it under the common name of winter fever in the south and west. And so termed by a great many practicing Physicians. And I have heard graduates in Medicine so call it but I have never yet heard a good Physician so term this disease for it is matter of fact that some of the greatest Bootlis in Medicine that one meets with are graduates. they are those kind of fellows

who must have a name to treat. and to give many of this kind of Drs their dues if you will give them the name of a disease they will tell you what the defer=ent Authors say about the treatment of that particular name. but bring them to the bed side of the patient they know nothing about symptoms as they really Exist. and are met with on the patient in practice they can not reason from cause to Effect and vice versa and as this kind of Doctors for the lack of paying more attention to symptoms or Exercising Judgment and discrimination as they probably happen to hear some old woman call this disease Winter fever from the fact of its moste generally prevaling in the winter season they are very apt and in moste cases do adopt the old womans name of Winter fever and as matter of course many of those who treat names instead of symptoms after they get what they consider a new disease from the fact of never having met with that term in the books they adopt some routine common methode of treating the disease agreable to the authority of the aforesaid very respectable perhaps old lady. and thus it

of the muscles or what is termed subsultus tendinum This nervous Irritation or Congestive symptoms predominate as the attack happens to partake more of one than of the other disease. in the commencement of the attack it is best to bleed where the nervous system has not received such a shock as to make it doubtfull about reactions taking place it would probally not be prudent in this form of the disease as a general rule to bleed after the first few days of the attack but in this the Physicians must be governed by his own good judgement and the symptoms present. if he will pursue the course indicated by them he can not go wrong but it is indispensibly necessary to administer Calomel say in doses from three to five grain doses every four hours combined with Camphor & Opium or some other stimulating and antispasmodic remedials agent untill the liver begins to throw of vitiated bile which in those attacks is generally as tar and equally as thick when the congestion is not too great. I have combined Ipecacuanha with the Calomel and found it to act admirably by relaxing the system generally and producing a determination to the surface it expedited the specific effect of the Calomel

and whenever the Calomel produces its specific Effect on the action of the liver and system generally I have alway in this kind of fever seen an immediate amendment of the symptoms. it is necessary to keep up the action of the Mercury over the liver untill the disease entirely gives way Just give the Mercury for the purpose of keeping the system under the influence of it and in the administration of the Calomel it is necessary to be governed by circumstances as to the amount given and the frequency of giving it. for it will require twice as much in one case as it would in another to produce the same Effect. it all depends on the good judgement of the Physician his intimate acquantance with the different temperaments and the Effect those different temperaments exercise over the action of medicine. When the congestive symptoms predominates over those of the typhus symptoms. I would make use of powerfull and diffusible stimulants in combination with the Calomel untill I have succeeded in restoring reaction. I would also make use of the Mustard plasters to the extremities in preference to the actual blisters because they produce more warmth and

and are more permanent in their Effect than blisters. When blisters are applyed they Excite the surface while they are drawing and produces warmth but after the Vesicles rises and the Water is let out the Extremities appear to become Cold again. Mustard plasters also have the advantage of not taking off the Cuticle and Consequently you may keep them applied as long as you desire their Effect. On the other hand if the typhus Symtoms predominate over those of Congestion I would Combine with Calomel Either Ipecacuana or Dovers powders for the purpose of acting on the Skin as a sudorific and in place of the Mustard plasters to the Extremities I would prefer the actual blisters for the purpose of allaying the nervous Excitement that Exists in the form of nervous twitchings of the Muscles and I have frequently made use of the Spirits Mindererii in doses of table Spoonfull to be repeated as often as the urgency of the case may require or demand its use. I have never met with any Article in the Materia Medica better Calculated to support and

and sustain the strength of the gener-
al system than this preparation of
Ammonia at the same time that
it acts as a powerfull tonic it also
acts as a sudorific diuretic and a
general Equaliser of the Circulation
generally. I would also apply a large
blister generally over the Epigastric region
for the purpose of Counter acting any
gastric Irritation that might be presen-
t and in a majority of Cases of this
form of the disease. there is Either in-
flamation of the mucous Membrane
of the stomach or a tendency to infl
amation of this the Physician must decide
from the symptoms present whether there
is any inflamation present or not
and adapt his treatment to the symptoms
present. we come now to Congestion fever
Complicated with gastro Enteritis in
this form of the disease the tongue pre-
sents a coated appearance on the centre
with red Edges and tip with tenderness
on pressure over the region of the stom
ach and bowels. the pulse indicate the
local inflamation by being not only
small in Volume but preternaturally
quick. and very frequent the Congestion

in this form of the disease is greatest in the Organs located in the abdomen which appears to be tense presenting a preternatural fulness in Consequence of Engorgement of blood in the organs situated within the Cavity of the abdomen. in this Case you must blister not only over the Epigastrum but I generally also apply a blister over the region of the abdomen. With Mustard plasters to the extremities for the purpose of Calling off the blood from the Engorged Organs internally at the same time I make use of warm fomentations or apply what I have had to act very well with a very happy Effect a Wheat bran poultice over the whole surface of the abdomen as warm as the patient Could bear it if I think that the patient Can bear bleeding and they allways Can in the Early part of the attack the bleeding should be resort to by all means and Carried as far as would be prudent and repeat the bleeding from time to time if you find that it is prudent untill you have Checked the inflamation and overcome the Congestion it is also

necessary to have the liver acted on by Mercury but it is necessary to be very cautious in administering ~~this~~ this remedy in this form of the disease it must be given in very small doses say two grains every two hours untill the liver is roused in to action combined with Ipecacuana if the condition of the patient will justify it or with Dovers powders. the patient is generally suffering from urgent thirst you may let him take a reasonable portion of some bland mucilaginous drink such as gum water flaxseed tea or slippery Elm Water provided those drinks do not disagree with the stomach of the patient if they should they must be restricted as to quantity. if there should appear to be torpor of the bowels they must be moved by a very mild aperatative injection or a small portion of Castor oil repeated untill the bowels are moved quietly. On the other hand as is sometime the case the patient has exausting watery colliquative diarrhea it must be checked if possible. but I have seen several very severe cases of this form of the disease relieved after the discharge of large quan

quantities of blood from the bowels of the patient and the patients began recovering immediately afterwards it seemd in those cases that this was the course nature took to throw off the disease and relieve the engorged organs. On the other hand I have seen patients sink under this haemorage from the bowels in spite of every thing that could be done to check or counteract the haemorage. So upon the whole if posible we should always endea=vour to relieve the oppressed organs before anything of this kind supervenes. in this form of the disease there is more necessity of being on your guard about producing salivation for I have thought before now that the irritation that the general system suffered from the effect of mercury was either directly or indirectly participated in by the mucous membrane of the intesti=nal canal one cause of which I have no doubt is owing to the large quantity of acrid and vitiated matter passed off by the bowels while salivation is present. it is necessary to keep the pat=ient on bland and mucilaginous drinks to counteract this as far as

as possible untill the symtoms of infl
amation has Entirely subsided at the
same time we make use of all pru
dent means to determe from the intesti
nal Canal to the surface if we Can
restore the functions of the Skin we thre
by relive in a great measure the Irrita
tion of the mucous membrane of the
Alimentary Canal. and with a view to
Effect this we should promote the secre
tion of the Kidneys and more particularly
the action of the Skin
we must come to the form of the disease
I have denominated a typhus Atonic or
Congestive fever with a putrid Diathesis
this form of Congestive fever is moste
generally met with during the Summer
and fall seasons of the year in low
bottoms lands where there is a great
deal of decomposition of Vegitable mat
ter generating a great deal of Kino
Miasmatter. in this form of the disease
the tongue presents a dark Brown appea
rance Covered with a thick scruff the
breathe has a very bad smell frequen
tly the surface is Covered with a
profuse perspiration which Emits
a very unpleasant odour and has

a sticky or slimy kind of feel to the touch there is generally rather laborious breathing a tendency to stupor accompanied with the most extreme debility of the muscular system and a disinclination to the least effort of either the physical or mental system frequently they complain of a dull numb heavy sensation in the head in cases of this kind the use of venesection is most decidedly contraindicated but on the other hand we must make use of those means best calculated to rouse and sustain the sinking energies of the system generally and to support and cause a reaction of the nervous system so far as we can by immediate means. in those kind of attacks I am in the habit of giving bolus composed of three or four grains of quinine four or five grains of cayenne pepper with two or three grains of calomel every two hours and if I think it necessary give stimulants and tonics during the intermediate time between the times of administering the boluses quinine and cayenne

answers better to sustain the system in this form of the disease than any thing that I have ever tried for that purpose. the Calomel exercises its specific influence over the action of the liver rousing that into action. there is one thing of importance to notice and that is the character of the discharges they should be consistent and of a very dark appearance and when the discharges presents this appearance under prudent treatment in the way of supporting and sustaining the strength the patient generally will commence mending. on the other hand if thin watery discharges take place unless they are checked the patient will very soon sink under them therefore it is necessary to keep a close watch as to the character of the evacuations and if they should become thin and watery check them immediately if possible. in this form of the disease it is necessary to continue the use of the Calomel so as to keep up its influence untill the disease is entirely broke up but I would not advise the use of Calomel in large doses as it might produce

Irritation of the mucous membrane of the bowels and besides it has always appeared to me to do more good in this form of the disease when administered in small doses by acting as an alterative and for that purpose we had better produce a slight swelling of the gums with a copperish taste in the mouth but not carry the effect any further than this and it will be necessary to be governed by the effect it produces and regulate the frequency of its administration by the effect produced. it is safer if not actually necessary to keep the patient under the manifest influence of the mercury untill the disease not only is subdued but untill decided convalescence takes place. I am also in the habit of making free use of the spiritus mindrii in this form of the disease and its effects has generally been most satisfactory but we must be governed by circumstances and treat the symptoms let them be what they will a remedy may have the most decided and happiest

Effect in one case and in another case be inadmissible it is a matter wholy impossible to give a minute and particular prescription that will suit every case in every particular or in fact any one given case as we find in practice every case having some symptoms peculiar to itself and those symptoms must be met by their appro=priate remedies. and consequently a great deal depends upon the sound judgment and good common sense and discrimination of the practitioner. in fact I have never seen any disease where there was so much urgent necessity for the Physici=an to exercise good judgment and discrimination as there is in treating the different form of Congestive fever not only from the fact of the disease of itself being one of great violence and danger but from the fact that there are so many and different symptoms in the different forms of the disease. and we find there are many cases in the same form of the disease that require different treatment one from another therefore we must treat symptoms and not names or we can not expect to be

successfull in practice generally but more particularly in the treatment of Compositive fever
to the practitioner who examines and understands symptoms and prescribes for them. he does not care whether you give a case of sickness any name or not he knows that names are only given to sickness for the purpose of assisting the student and that if he treats the symptoms correctly he is certain to cure the disease if medicine will do it. he knows that it will not do in practice to adopt some name from the books and apply it to the case of the patient without knowing whether that is really the ~~disease~~ the author ment should have the symptoms of the patient. but he takes the information of the books as general instruction but does not expect it precisely adopted to any one particular case that he may meet with in pratice in any particular but he takes all the information he can obtain makes the most reasonable deduction from that thing governed by good common sense and then by his good judgment he reduces this thing to practice

It would be an interesting subject if we could have the different phenomena of Congestive fever satisfactorily Explained or accounted for the Effect of the disease its appearance and the general symptoms and soforth we have seen but the Cause that produced these symptoms or Effects and the way and manner of acting on the system we have said nothing about. With all due defidence I shall therefore proceed to give my humble Opinion on the nature of Causes their Manner of Effecting the system to produce those Effects that have been mentioned heretofore. Congestive fever is produced by all of the Causes that produce other kinds of fever I shall not be so minute as to divide the Causes into remote and Exciting Causes. but by far the most fertile source of Congestive fever is Malaria the proof of this Statement is the seasons of the year that it is most prevalent to the local situations of the sections of Country most subject to it. though like most of all other kinds of fever it may prevail at any season of the year but most commonly at some particular times of the season than at other

for instance the first form of the disease that I have spoken of appears most frequently in the latter part of the summer and fall when the nights begin to become cool while the days are very warm. the very violent grade of this first form of the disease prevails mostly during dry wether and most usually occurs from the fifteenth of September to the twentieth of November. but occasionally prevails at any period of the year. Typho Congestive most generally prevails during the winter in cold damp wether and generally in low marsh=atic situations though you will occasio=nly meet with it at all seasons of the year. the form complicated with gastro enteretis most always prevails in warm moist wether the other form of congestive fever I have spoken of. Congestive fever with a putrid or atonic diathesis always prevails during warm wether and in very low and unhealthy and malarious situations. though you frequently meet with cases with the symptoms of these different forms

of the disease so blended and mixed together that it is difficult to tell — which form of the disease to Class it with. but moste generally the symptoms of one form so far predominate over the symptoms of all the others that there is not much difficultty in placing the case in its proper place. and taking it for granted that Malaria is at least the remote cause of the fever and frequently the exciting cause of the attack how does it opperate on the system to produce those effects heretofore spoken of I would say that it produces its first effect on the nervous system and through that system on the muscular system and circulatory system the system receives the first shock and by that means has its function partially impaired or suspended the lungs for lack of sufficient nervous influence or excitement fail to duly oxigenise the blood to as great an extent as they would otherwise do if they received their proper stimulation from the nervous system the blood instead of being duly

Decarbonised in the lungs is sent
Back to the heart with a portion of
Carbon remaining to be sent to the
Various parts of the System.
the blood when it comes back to
the heart in this situation and is
sent out by the Arteries fails
to give the requisite and usual
stimulation to the heart and Arteries
here results in this manner the Cause
of the feeble and diminished action
of those Organs. and the only-
Way that I can account for the
Contracted or constringed ~~appe~~
~~arance~~ Condition of the Arteries is
that the blood now circulating in
the Arteries produces this Effect
by the Carbon it contains. it not
being admissible to any Considerable
in the blood that Circulates through
the Arterial System. induces Con
=traction of the Calibre of the Arteries
and the same inherent Contract
=ion produced by the same Cause
Existing in the Capillary ~~Vessels~~
System many of those little Vessels
that in health were large Enough
to Carry or admit the globules

of the blood are so much denuded in Cholera that they are closed against the Entrance of the blood hence the Sunk and Constringed appearance of the Skin and this is the way that I would account for the peculiar dry appearance of the Skin in Congestive fever generally. and the permanent manner in which the pores of the Skin are locked up. the Contractile disposition operating on the Muscular fibres through the medium of the Nervous fibres of the Skin thereby Closing the Secretory Emunctories of the Skin as though they were hermetically Sealed and hence we have one Symtom in this disease that I have never seen in any other and that is full and free Vomiting with out the Skins becoming in the least moist or soft. which I always look on as one of the most decided Symtoms of marked Congestion. and I think it a very important Symtom as it is one that assists us in deciding certainly

as to the case being Congestive when ever we have this symptom in all cases of fever we are certain to have inequality of Excitement and circulation with local determination and Engorgement of some portion of the system to a greater or less degree with blood. but in no other fever or disease that I have ever seen have I ever noticed very full and free vomiting continue for any considerable time without producing at least softness of the skin or a tendency to become moist but in Congestive fever in this disease I have seen it often. but whenever this symptom is present depend upon it the fever or rather Congestion is fully developed in an obstinate and violent form. at least this opinion corresponds with my experience in this kind of disease there may appear to be a discrepancy in the description that I have given of the symptoms of the last form of Congestion or that form that I denominated atonic or Congestive fever with a putrid diathesis but the way I account for this

discrepancy is that in this last form of the disease the shock of the nervous system is so great which is manifest from the extreme prostration and the sinking condition of the patient. that the spasmodic constriction (that I spoke of as appearing in a preceding form of the disease) exercised in the skin over the vessels of the skin through the medium of the nervous system. is not only not present but owing to the atonic state of the system and the suspension of the functional action of the nervous system in a great measure. the mouths of the pores of the skin are relaxed to an unusual degree and permits the serious portion of the blood to ooze out as it were in the form of profuse and exhausting perspiration. and if not checked by the proper means assists very materially in destroying the little remaining strength thereby bringing on death more speedily.

Dr Armstrong in speaking of congestive fever says that if a man

is stunned by a fall or receives a blow on the head so that it produces insensibility and death. that it is occasioned by by Congestive fever. but with all due deference to the opinions of that very distinguished Physician I must differ from that opinion it is merely suspended animation which a little rest and the recuperative powers of the system will restore. provided there has been no lesion of the Brain its membranes or of some other important organs.
the system receives a severe shock in the concussion and the heart and arteries act much more feebly for a short time. this is the course nature takes to obviate or repair any injury from the violence. but its effects are very different from congestive fever if there is more blood in the brain than usual or any other of the internal organs it is simply engorgement of those organs with blood from the mechanical violence they may have sustained. the general condition of the system in cases of this kind is very different from that condition of the

System met with in Congestive fever there in fact are but very few if any of the symptoms that characterise Congestive fever present with the exception of Engorgement perhaps of some particular organ of the body while the ballance of the system is engorging as it were all of the attributes of health ~~except~~ again Dr Armstrongs says that when a persons becomes very cold that they are effected very much in the same way as person with Congestive fever that freezing to death is a death pretty similar or the same thing as Congestive fever this I must think is very different from Congestive fever there is none of the symptoms of the disease in this case with the exception of the Engorgement in consequence of the bloods being driven from the surface inwardly by the action of the cold on the system but take the person who is thus chilled and place him in a moderately warm ~~room~~ temperature and he is perfectly restored to health. but you do not see patients who are labouring under an attack of Congestive fever throwing off the disease so readily. not even when

when assisted by the moste judicious treatment medically. the recuperative powers of the system are not capable of throwing off congestive fever without assistance the diseases of the south and West have undergone ~~since~~ a great change since the Cholera was so prevalent in 1833 and 34. the Cholera seems in a great measure to have engrafted or blended itself with the common diseases of the country. thus we hardly ever have the old common form of the Bilious fever unless it is complicated with either congestion or inflamation of the stomach and bowels. Consequently the general course of treating diseases incident to those portions of country must of necessity be changed to suit the character of the diseases under their new forms.

In the common form of the continued and remittent Bilious fever as it usual ly appeared previous to the Cholera there was nothing necessary to be done only to deplete the system by venesection purging and purging and the medicine was moste generally given in large

and full doses say of Calomel from 20 to 40 grains and seemed to have a very happy effect. but since the diseases have undergone the change spoken of more particularly ~~the~~ where the mucous membrane of the alimentary canal is inflamed. those large doses of medicine are calculated to aggravate the disease by increasing the gastro enterectus. Consequently many of the old physicians who have adopted a kind of routine practice giving their medicines in large doses are surprised to find that they are not so successfull as formerly but do not take it into consideration that the diseases of the country have undergone a change since they commenced the practice of medicine
It is strange to think that men of common sense would give medicine in such enormous doses as some physicians in the south and west profess to give medicine for instance Calomel in doses from 60. to 120 grains Tartar in equally large doses some of them will tell you of their giving these uncommon and unreasonable doses and cum

to take great credit to themselves for doing it. and sure to be surprised if you do not express astonishment at and admir=ation of their course. I must confess that I generally felt astonished when they talked to me in this way to think that a man who professed to possess common sense would so far depart from every thing connected with reason as to admi=nister medicine in this blaring manner I look on it as the most culpable quack=ery that our country has ever been afflicted with if you ask one of those bookites (for they generally give professor book of Kentucky for authority what good these enormous doses does more than a reasonable dose they will generally say that there is only a certain portion of the medicine that will have any effect the ballance will pass off without producing any effect on the system whatever — now if this was the fact it is an uncontrovertable against giving any more of the medicines than would act on the system. but so far from this the case it by its powerfull drastic and stimulating qualities when given

in so large a quantity it weakens and and wears down the strength of the — system and if the patient happens to survive the use of the medicine it is at the expense of his constitution which being broken up by this imprudent mode of treatment. destroys his prospects of enjoying health in future and ushers him into an untimely grave those kind of persons who inflict this sort of practice on their patients are generally incapable of giving you a rational reason for anything they do. they seem incapable of reasoning from cause and effect. if they know that a medicine will have a certain effect on the system cant explain satisfactorily why the producing that effect will have a tendency to give relief or counteract a disease and when this is the case their practice is nothing more than empiricism and quackery. there are a very large majority of physicians that I have conversed with on the subject of congestive fever in the south and west who think that blood letting is certain death. I think one reason with many of them for entertaining this opinion is that they have not been particular

Enough in discriminating between the symptoms of the different forms of the disease and the different stages of Congestion they possibly have frequently Confounded the symptoms in the Violent form of the disease with those of Collapse which without some pains and attention may very readily be done in the one case without bleeding the patient must die by Collapse supervening in a short time. in the other case where Collapse is present bleeding would only hasten the termination in death so it is necessary to take a great deal of pains to inform ourselves so that they may know when ~~proper~~ the system possesses Vital Energy sufficient to react when proper inducements and assistance is offered it and also to know when there is not enough of Vital Energy remaining to react. it all depends on the judgement of the physician and unless he understands symptoms and treats the symptoms instead of pursuing a rotine ~~or trying~~ course or trying to find a name to prescribe for he must necessarily be unsuccessfull in the treatment of Congestive fever in fact he will in all probibility kill

the patients that are so unfortunate as to fall into his hands for treatment I would say that Symptoms always have a reason for doing Everything you do and when you have formed your Diagnosis and selected your remedies governed by Common Sense and reason in all things administer them with promptness decision and Energy what I have said relative to Congestive fever accords with my Experience in that disease and though I am fully aware of my incapacity of doing Justice to the Subject being one of such Very great importance yet I Consider it the duty of Every one in the profession no matter how humble his pretentions may be to Contribute his mite:
It is I am aware presumption in me to call in question the Correctness of Dr Cooks Mode of administering medicines in those unusually large doses.— for his high standing his good— Character his great learning and private Worth I am disposed to give him all due respect and Credit. but as an individual and as a Citizen of the United States I must differ

in Opinion on that particular subject untill I am Convinced from Experience that there is more Virtue in those Enormous doses of medicine than their is in reasonable portions. not that I would attempt to insinuate that there was anything wrong his practice or the practice of those gentlemen who quote Dr Cook as authority in giving those wholesale doses of medicine. I would like to keep on the non Committal side so far as giving offence is Concerned to any person. like the Countryman who asked the Sausage Merchant if his were good sausages. the sausage dealer of Course become somewhat Vexed and asked if he insinuated that his sausages were not good sausages. the Countryman replied no that he never made any insinuations but there was one thing he knew that where ever he saw that particular kind of sausages he did not see any Dogs. so whenever I meet with a practitioner who is in the habit of administering those outrageous doses of medicine I always Expect to see large grass yards in that particular Neighbor hood and those pretty full of graves but still I would not wish to make any insinuations about any gentlemans practice